The Journal of the
American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, FEBRUARY 17, 1900. No. 7.

Original Articles.

THE HOCKEY-STICK INCISION.

TYPICAL MODE OF ENTERING THE ABDOMINAL CAVITY IN CERTAIN COMPLICATED CASES OF APPENDICITIS.

BY WILLY MEYER, M.D.

Professor of Surgery at the New York Post-Graduate Medical School and Hospital; Attending Surgeon to the German and New York Skin and Cancer Hospitals; Consulting Surgeon to the New York Infirmary.

NEW YORK CITY.

The first question that presents itself to the surgeon when operating for appendicitis is that as to how and where he had best make his incision. The main point by which he is guided in deciding this is the nature of the case under consideration; that is, whether it be an acute or an interval case.

In interval cases every surgeon nowadays tries to get through with as small an incision as possible and arranges his work in such a way that there will remain no tendency nor possibility of the appearance of a ventral hernia. Thus he traverses the external oblique and transversalis muscles near the anterior superior spine, bluntly, according to the direction of their fibers—McBurney's gridiron incision[1]; or he makes the cut at the outer border of the right rectus muscle, then displaces it inwardly in order to reach a spot of its posterior sheath which, after having been incised and later sewn up again, is covered by the protecting belly of the muscle[2]; others still sometimes deem it wise to penetrate the right rectus muscle itself in order to accomplish their work. It certainly is the aim of every surgeon nowadays to arrange his operative procedure in an interval case so as to restore the abdominal wall to its former perfect condition. To make, at an interval operation, a sharp incision near the anterior superior spine, which divides the fibers of the external oblique and transversalis muscles at right angles, is justified only in cases where the surgeon, after having done the blunt division, finds such far-reaching adhesions, or such conditions within or around the appendix, that a further procedure through so small an opening in the abdominal cavity is unadvisable.

It is different when we operate for acute appendicitis. Knowing how often we meet with gangrene of the appendix or with suppuration in its immediate neighborhood; knowing, further, that in perforative cases the small pelvis or the entire abdomen is filled with seropurulent fluid or real pus—in which cases thorough drainage becomes imperative—we arrange so as to be able, during our work, to obtain as free access to the abdominal cavity as may become necessary. In other words, we cut through all the layers of the abdominal wall in one direction, and then lengthen the incision upward or downward as the case may require.

The incision parallel to the outer border of the rectus muscle, originally devised by Schüller, is now rarely employed. As far as I know, the majority of surgeons, when operating for acute appendicitis, prefer to make their incision where the abdominal wall is thickest, i. e., very near the anterior superior spine. In doing this we shall certainly have done our best to protect the patient against the future occurrence of a ventral hernia, at least if we were able to close the wound entirely, or to its greatest extent, by layer sutures, draining through its lower angle. But how proceed, if we have to enlarge this wound in order to obtain ready access, for instance, to the perforated tip of an appendix that hangs low down into the small pelvis, or is drawn toward the linea alba? how, if we have to obtain free access to a co-existing pyosalpinx or perforated ovarian abscess? how, if we are confronted with a case where it was impossible to definitely determine beforehand whether the symptoms of acute peritonitis were due to an acute inflammation of the appendix, or of the tubes or ovaries, or a combination of these?

I am sure that a large number of surgeons would abandon the original incision and add a second one in the median line, should they find they would have to remove a pyosalpinx of the same side after having finished their work on the appendix. Others might at once make a more oblique incision without regard to the direction of the fibers of the fascia of the external oblique muscle, if they anticipated trouble in the small pelvis.

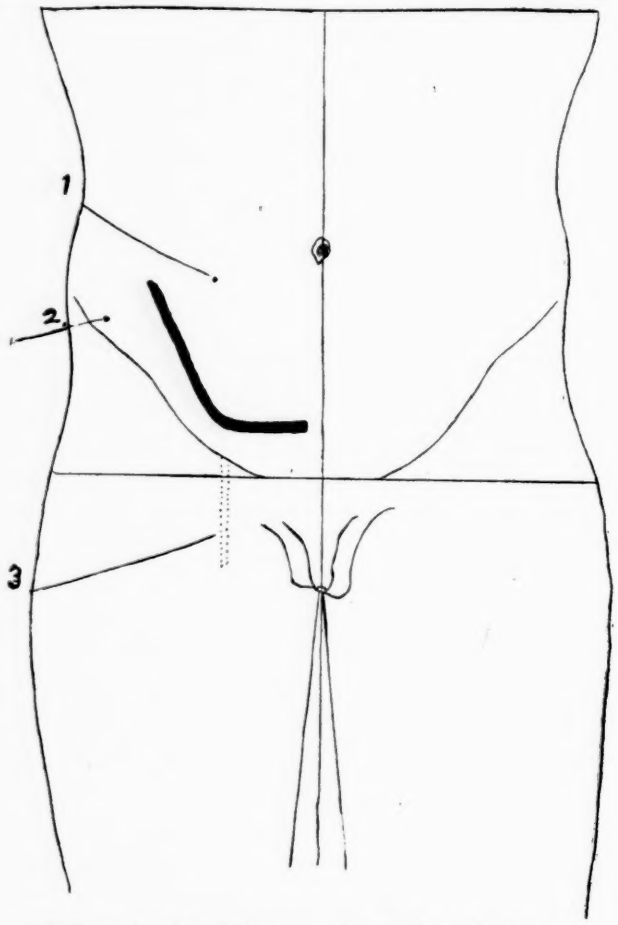
In the course of my extensive operative work for appendicitis, I have found a useful incision, the chief advantage of which is that it enables us to respect the fibers of the external oblique muscle and that, if properly lengthened at its lower angle, it gives us sufficient access to the small pelvis and its contents to accomplish whatever work may be necessary, at least as far as the adnexa of the right side are concerned. On account of its shape, I have called it "the hockey-stick incision."

For years I have made it a rule, also in my operations for acute appendicitis, to always split the fascia of the external oblique muscle in the direction of its fibers. I endeavored to make this fascial incision just where the layer of the abdominal muscles is thickest, namely, close to the anterior superior spine. With a view to estabishing typical points as to the beginning and direction of the incision, I carefully traced its course during the operations, and found that its upper end passed exactly midway between McBurney's point and the anterior superior spine, and then continued in a straight line toward the spot where the femoral artery is felt pulsating underneath Poupart's ligament. I further found that the skin incision thus made corresponded to the direction of the fibers of the external oblique muscle in at least 95 per cent. of the cases, the exceptions being very fat people, especially a multipara with pendulous

abdomen. There the incision must be made in a somewhat more slanting direction.

In all cases of operation for acute appendicitis where the abdominal muscles have to be cut, one should be careful not to begin the incision too far above a line drawn from the umbilicus to the anterior superior spine, for the reason that we must be enabled to lengthen the incision posteriorly and parallel to the crest of the ilium, should we find the appendix situated behind the caput coli. If the disease could be definitely diagnosed to be in the lumbar region, the cut would at once be made posteriorly.

My usual incision in most cases of acute appendicitis, therefore, commences at a spot about one-half inch above and midway between McBurney's point and the anterior superior spine and ends about one-half to three-quarters of an inch from Poupart's ligament. In making it, I first ascertain where the femoral artery pulsates on its passage underneath Poupart's ligament. The left forefinger of the assistant marks this spot, and I cut toward it. The fascia of the external oblique



1. McBurney's point. 2. Ant. sup. spine. 3. Femoral artery.

and the following structures are split in the same line. After having entered the abdominal cavity, it will become evident whether or not the incision is large enough to enable us to do the necessary work. If the appendix is found to be situated inward or downward and a wider entrance be needed, the incision can first be lengthened straight upward as far as the surgeon thinks proper. With reference to lengthening the lower end, I now proceed in the following way: I enter the peritoneal cavity at the lower angle of the wound, with my left forefinger, and slide it inward to the spot where the epigastric artery pulsates; I then curve the lower end of the incision by drawing the knife in a horizontal line, that is to say, perpendicular to the median line of the body, thus forming a rounded-off angle of 110 to 120 degrees. The entire wound then has the shape of a hockey-stick. (See cut.) In making the horizontal part of the incision, care must be taken not to injure the epigastric plexus. It is primarily caught between two forceps, then cut and ligated. The incision ends at the border of the right rectus muscle. If still more room be needed, the belly of the rectus can be easily drawn inward and the peritoneum beneath it incised in the same direction. In pulling the borders of this wound apart, it will be seen that an easy access has been gained to the organs situated within the small pelvis.

It is well possible that others may have availed themselves of a similar cut, but if so, it seems they have not published their experience; for, my friend, Dr. Martin W. Ware, who kindly perused for me the literature with reference to the different incisions employed in operations for appendicitis, in the interval as well as in the acute stages, has been unable to find any descriptions of or reference to a hockey-stick incision such as practiced by me, or the purpose of this incision.

The different incisions for opening the abdomen in cases of acute appendicitis, so far devised and published, are the following:

1. Schüller, in 1889, proposed an incision parallel to the outer border of the rectus[3], basing his incision on the anatomic researches of Treves and Luschka. It is 10 cm. long and runs one finger's breadth to the inner side of the center of a line spanning the anterior superior spine and symphysis pubis.

2. An oblique incision with an additional cut at its upper end inward, or at its middle outward, according to necessity, is practiced by Fowler[4].

3. Morris makes an inch and a half incision, which runs obliquely, the distal end of the line ending at the right margin of the right rectus abdominis muscle[5]. In cases with widespread infection the incision is three or four inches long.

4. Beck also favors an oblique incision, which runs in a straight line and courses from the end of the eleventh rib toward the os pubis[6].

5. Roux[7] makes his incision as close to the anterior superior spine as possible and parallel to Poupart's ligament, sometimes as long as 15 to 18 cm., and extending equally as far above as below the anterior superior spine.

6. Sonnenburg[8] favors the incision as advised for the ligation of the iliac artery.

It was by chance that I first came to make the hockey-stick incision: Two years ago, when operating for what seemed to be acute appendicitis on a married woman, whose pathologic symptoms could as well be referred to an acute gonorrheic inflammation of the right tube, with sudden outflow of infecting fluid at the abdominal end of the same, I did not feel satisfied after the removal of the appendix. It seemed desirable to bring the tube and ovary into view. The patient was stout, so that it was impossible to reach the parts in question through the wound already made. I was unwilling to add a median incision for the purpose. In this emergency I continued the incision at the lower end, turning it into the shape of a hockey-stick, as above described. Then it was very easy, not only to feel the right ovary and tube—the latter down to its uterine insertion—but to see these structures with the fundus uteri and observe the pus oozing out of the abdominal end of the tube, especially when gently massaging

With proper drainage the patient made a good recovery. From that time on I have made use of this incision in other complicated cases: Thus, for example, I have removed, after having dealt with a diseased appendix, a large ovarian cyst of the right side; in another instance, a gangrenous right ovary with its tube, the gangrene being due to a twisted pedicle; in a third patient, a large pyosalpinx which filled the whole small pelvis and was firmly adherent to the surrounding organs. All intrapelvic manipulations were well feasible, because the incision is long enough to permit of the entrance of even a large hand, and its working within the small pelvis. In my patients it was not at all difficult to bring the fundus uteri into view and ligate the tube close to its uterine end. I certainly did not have the slightest wish to make an additional median incision, although I did the work in all cases with the patient flat on her back and not in Trendelenburg's posture. I am sure that, if the latter be added, the necessary intrapelvic manipulations would be still more facilitated.

With reference to the left tube and ovary, I have repeatedly satisfied myself that they can be palpated with ease by the aid of two or three fingers in the wound.

I have found this incision useful also in the male, especially in cases of perforative appendicitis where we have to drain the small pelvis, which had been filled with septic material; for, the lower end of the wound is then almost perpendicularly over Douglas' cul-de-sac. The drainage is, therefore, more direct. I have repeatedly used it to advantage in such cases.

The incision proved especially valuable in my hands in the case of a colleague who presented a very long gangrenous appendix which had not perforated, but was filled with fluid to its utmost extent, and hung low down into the small pelvis. From the appearance of the appendix I felt positive that, if the organ should burst during the manipulations, which would undoubtedly have happened had the incision been made insufficiently long and thus given less ready access to the small pelvis, the hope of recovery would have been greatly reduced. I did my best, as also did my most competent assistants, to handle the organ as gently as possible; to our delight we were able to get it out unruptured. Recovery was uneventful.

In non-suppurative cases the whole wound can be immediately closed by sutures.

If drainage be necessary, the entire wound need not remain open, the upper portion of it, which traverses the thickest part of the abdominal muscles may be closed by tier-sutures, the lower part being reserved for drainage. It is evident that, by partially closing the wound in this way, the danger of the development of a ventral hernia, especially that annoying type so often produced by the caput coli, is less imminent. In some instances it seemed to me of advantage to also insert a few stitches in the extreme lower end of the wound. This ought to be always done if the peritoneum beneath the rectus muscle was incised transveresly.

I have employed the hockey-stick incision in ten cases of appendicitis, gangrenous, perforative, or complicated with tubal or ovarian affections, and feel that I can recommend it as a typical mode of entering the abdominal cavity in just such cases, as it enables us to efficiently do extensive work within the small pelvis without necessitating an additional median incision.

BIBLIOGRAPHY.

1. Annals of Surgery, 1894, p. 38.
2. Proposed independently by Battle; British Med. Jour., ii. 1360, 1895; Talugier, Presse Med., v., 53, 1897; Kammerer, Annals of Surgery, xxvi, p. 225, 1897; Lenander, Centralblatt für Chir., 1898, p. 90.
3. Langenbeck's Archiv, vol. xxxix, p. 845, 1889.
4. On Appendicitis, 1894.
5. Lectures on Appendicitis, 2d edition, 1897.
6. Sammlung. Klin. Vorträge. No. 221, 1898.
7. Traitement Chir de la Perityphlite suppurée; Revue Med. de la Suisse Romande, 1891, vol ii, p. 324.
8. Über Perityphlitis, iii. ed., p. 367.

700 Madison Avenue.

THE BUBONIC PLAGUE:

POINTS OF SPECIAL INTEREST TO SANITARIANS.

BY EDMOND SOUCHON, M.D.
PRESIDENT LOUISIANA STATE BOARD OF HEALTH.
NEW ORLEANS, LA.

The following are extracts from Kitasato, Nakagawa, Yersin, Wyman, Manson.

CAUSES EXTERNAL.

The plague affects all countries.

It affects all climates, but it has become practically a disease of warm climates.

It affects all altitudes.

It affects all seasons, but is worse in moderate temperatures.

Moderate temperatures combined with a certain degree of dampness are the most favorable conditions.

It affects all races, but the yellow race is the most liable. The white race is much less so. In the epidemic of Hongkong in 1898, the death among the Chinese was 98 per cent., and among the Europeans 18 per cent.

It is endemic in many countries of Asia.

It exists over such a large area there that the disease may be said to be pandemic.

The worse the hygienic conditions, constitutional and general, the worse the disease.

Filth and overcrowding are the most potent conditions for the starting and spread of plague.

It is the severest in unsanitary districts and among the poverty-stricken and ignorant.

In cities the cleanly districts are generally spared.

Underfeeding and the use of poor or unwholesome food is a potent predisposing cause.

The poison is not eliminated by the ordinary respiration of a patient suffering with the disease.

The elimination takes place in the sputum—especially in the pulmonic plague—the urine, the dejections, pus and blood from wounds, buboes or other ulcers or wounds.

When exposed to the sun the bacillus dies in four hours.

It may survive outside of the body for a longer time.

Its vitality outside of the human body is very short.

There is a considerable mass of evidence tending to show that clothes, skins, textile fabrics and other similar materials may preserve the virus for several months.

The bacillus can live for a time in dirt, also in moist dust dry enough to be easily wafted into the atmosphere by slight currents of air.

There may be transportation of the virus in *moist particles.*

Yersin states that he found in the *soil forming the floor* of plague-haunted houses, 4 to 5 cm. below the surface, a bacterium with all the bacteriologic characters of the plague bacillus, but devoid of virulence.

Nobody has been able to demonstrate the presence of *virulent* plague bacilli in the soil of infected localities.

The bacillus when desiccated can not be preserved more than seven days.

Lice, flies, bugs, fleas may act as carriers of the virus from person to person, inserting it with their bites.

Yersin found in his laboratory dead flies, whose bodies were crowded with the bacilli.

The bacilli are found in the bodies of rats and mice found dead during an epidemic.

There is sometimes a great mortality among rats, mice, snakes, beetles, bugs, flies, dogs—less frequently, —jackals. Purely herbivorous animals—horses, oxen, sheep, goats, rabbits—are usually exempt pending and accompanying outbreaks of plague in man.

Other animals also may die, oxen, sheep, deer, pigs, dogs—less frequently.

Fleas carry it from animal to animal and from animal to man and from man to animal. Fleas leave dead animals to go to living ones or hide in clothes.

Rats contract the disease by breathing the air of an infected house or by eating and drinking contaminated food and water, or by eating cadavers of man and of animals.

They infect houses by defecation or by dying in or under houses.

The disease is communicated by breathing the air of an infected room, also by eating and drinking in an infected room, also by conveyance from the fingers or glasses or fork, etc., to the mouth.

Rats and mice fed on cultures or on fragments of liver or spleen of animals dead of plague acquire the disease.

Yersin placed in the same cage healthy and inoculated mice. The inoculated died first, but afterward the originally healthy and uninoculated mice also succumbed.

Inhalation experiments have thus far been negative.

The extension of the epidemic depends oftener on place infection than on direct transmission from person to person.

It spreads from one country to another by religious pilgrimage, by ordinary travelers and their baggage, by rats, fleas and other vermin.

Plague is not so infectious as scarlet fever, measles, smallpox and typhus.

Plague Conveyance by Merchandise.—Following is an extract from the London *Lancet* of March 13, 1897, upon this subject:

A special commission was appointed by the French Academy of Medicine in 1846, and made report upon the danger of the importation of the plague infection through merchandise from infected ports.

The delivery (of the commission of 1846) was as follows: *There is no proof that merchandise can transport plague outside of the epidemic foci*, and the arguments upon which this conclusion was based were: (Translation.)

In 1835 epidemic plague prevailed at Alexandria among the employees of all grades living in the warehouses of the Egyptian government. A great quantity of bales of cotton, handled daily by laborers, were shipped to all the great ports of Europe from January to June—that is to say, during the period of the epidemic—without a single case of plague resulting. In 1835, 31,709 bales were carried to England, 33,812 to Marseilles, 424 to Leghorn, 150 to Holland, 32,263 to Trieste, 32 to various ports. *These cotton bales, we repeat, did not convey plague to anyone, although no precaution was taken to disinfect them.* They were compressed before being put on board, and were then piled in as small a space as possible. The hatches were closed, and the vessel left Alexandria. Of the 16 English vessels loaded with cotton which left Alexandria from the beginning of January to the end of June, eight had plague on board, but the cotton loaded in these vessels was not more dangerous than that of non-infected vessels. We close, gentlemen, what we had to say with regard to the transmissibility of plague by directing your attention to a fact of great importance, which is positively and officially recognized. *Since 1720 not one of the porters employed at the lazaretto of Marseilles in loading and handling merchandise has contracted plague.*

Generally speaking it is now considered that new merchandise plays a small rôle in the conveyance of disease.

CAUSES INTERNAL AND INDIVIDUAL.

The disease is rarer after 50 than during adolescence.

Certain occupations like rag-dealing may increase the risk of infection.

It may penetrate by respiration, by ingestion; also by inoculation through slight wounds. The disease may be communicated through trifling wounds of the hand, face or other parts of the surface. It is conceivable that the germs that may be lying about on the ground deposited there by the discharges of sick men or animals, or perhaps growing there in natural culture, may have been picked up in this way.

The bacillus persists in the bodies of the convalescents for at least three weeks after cessation of the active disease.

The plague is due to a bacillus discovered by Kitasato in 1894.

It is found in great quantities in the buboes, generally in pure cultures, but often associated with the pus cocci.

It is also found in the blood. It is easily detected only by cultivation at the beginning, and with difficulty directly by the microscope.

But toward the end of the attack they are so numerous that they are readily seen by the microscope directly.

The bacilli of the blood are shorter than those of the fluids.

They are also found in the intestinal contents and in the feces.

The bacillus is found in the blood obtained from the finger tips of the living; also in the intestinal organs.

The most favorable temperature for the cultures is from 36 to 39 C.

The bacillus does not form spores.

Intentional and unintentional experiments prove or rather make probable the inoculability of plague to man.

Mice, rats, guinea-pigs and rabbits are very susceptible to inoculation.

Pigeons survive. Sheep and swine are feebly, if at all, susceptible.

Guinea-pigs die in from two to five days.

The bacillus, when dried on cover-glasses protected from the sun, dies in four days.

Exposed to the sun it is killed in four hours.

By artificial and by natural means the virulence of the bacillus is susceptible of modification.

By passing the virus from one guinea-pig to another by inoculation it increases in virulence.

Yersin says that a gelatin peptone cultivation is as fatal as virus derived directly from a bubo.

Its growth is more vigorous in anaërobe cultures.

The bacillus is a facultative anaërobe culture. In such its virulence is preserved for an almost indefinite length of time, eight to ten months.

In aërobic cultures the virulence is lost rapidly.

The bacilli undergo alterations if they are cultivated through several generations in artificial media.

The bacilli produce toxin in artificial cultures.

The bacillus is readily killed by ordinary processes.

In the blood there is great increase in the number of the leucocytes.

The erythrocytes are not diminished.

The Yersin pest bacillus is quite distinct from the bacillus of Kitasato.

INCUBATION.

The incubation is usually from a few hours to eight days; usually within four days. It may extend to fifteen days.

PREMONITORY SIGNS.

Rats sometimes leave a healthy locality in great numbers before the plague is declared in man.

There is sometimes great mortality in rats, mice and other animals before the plague is declared in man.

It has been remarked, on two occasions, in Russia and in Persia, that outbreaks of plague were preceded by a sporadic or epidemic febrile—sometimes afebrile—affection in the course of which the lymphatic glands became enlarged and perhaps suppurated.

SYMPTOMS.

The most important prodromal symptom is the tenderness and pain in the inguinal or axillary region.

The cardinal symptoms of the usual type are rapid high fever, adenitis in the groin and axilla, typhoid facies and general condition, extreme weakness causing a peculiar gait.

DIAGNOSIS.

Kitasato and Aoyama say they have demonstrated the presence of the bacilli in blood twenty-four times out of twenty-eight examined, and they would be decisive in the majority of cases.

Examination of the fluid aspirated from the glandular swelling may afford an easier method.

There are cases on record in which plague was diagnosed and yet the autopsy showed widely different conditions.

COURSE.

In sanitary hygienic conditions plague does not spread.

In some of the worst sanitary conditions the disease after being epidemic dies out spontaneously.

In some epidemics the first cases are the worst and the subsequent ones less severe.

It may start as very benign and later assume a malignant aspect.

The subsidence of the plague in a locality seems to depend on the abatement of its virulence in due course of its evolution.

It is generally conceded that seven months are necessary for the subsidence of an epidemic.

Convalescence is slow and long

Convalescents must be kept isolated for one month.

PROGNOSIS.

In Hongkong, in 1894, the death-rate among the Chinese was 98 per cent., and among the Europeans 18 per cent., as said above. This was mostly due to the fact that the Chinese are underfed and often use poor or unwholesome food.

The mortality is high, but if light cases are counted in, it is not so high as it seems.

One attack seems to confer immunity against a subsequent.

TREATMENT.

The treatment should be conducted on general principles.

Animals can be made immune by preliminary injections of the attenuated virus; also by the injections of sterilized virulent cultures.

The serum has curative efficacy in the lower animals.

The serum of Kitasato and of Yersin, preventive and curative, has not yet given thoroughly reliable satisfactory results in the human subjects, but it is gaining ground.

The serum of Haffkine, prophylactic and curative, has not as yet been uniformly successful.

PROPHYLAXIS.

Nurses must use a disinfectant mouth wash.

They must wash their faces, mouths and hands before eating.

They must never eat or drink in the sick-room.

They must protect every little abrasion of the skin anywhere.

They must wear boots and fasten the trousers around the ankles.

The bacillus is easily destroyed by all the ordinary disinfectants.

Mice and rats which have died spontaneously or otherwise in houses must be cremated.

COMPLICATIONS.

The most common complication is the streptocopyemia due to the concomitant micrococcal infection.

FORMS AND VARIETIES.

Premonitory plague is the mild form which sometimes precedes the appearance of the typical disease, as cholerine precedes cholera epidemics.

Mild plague—pestes minor—presents buboes with little or no constitutional symptoms.

It may precede true plague.

It may follow or mark the end of true plague.

It may exist through a whole epidemic from beginning to end.

A thorough bacteriologic examination in cases of mild plague has never been made. If they are really light cases of plague, they might be instrumental in the propagation of the disease.

In the Larval plague there are large numbers of mild cases. The buboes form and suppurate and resolve, but the constitutional symptoms are mild and are sometimes wanting.

Ambulant plague cases are those where the patient is able to be about, having little if any fever and apparently being little inconvenienced by the disease. Such patients, however, may collapse suddenly. They are potent causes of spreading the disease.

Defervescing plague is the form that terminates by a defervescence or crisis.

In the *Siderating plague* death occurs within twelve to twenty-four hours, before the buboes are formed. These cases are principally pneumonic.

Pneumonic plague is the form that affects the lung. The sputum in these cases is dangerous; also the infinitely small particles which may be contained in the air when patients cough.

Hemorrhagic plague or Black plague is characterized by extravasations of blood.

Ulcerated plague is characterized by the presence of ulcers resulting from the suppuration of the glands and of the extravasated blood.

Plague septicemia is the form complicated by cocci infection.

Cold in Treating Pneumonia.

The question, "Has the application of cold given you satisfaction in the treatment of pneumonia?" was recently addressed to representative clinicians throughout the United States, and the replies are given at length in the *Md. Med. Jour.* for January. In brief, 7 report this treatment "very valuable;" 9, "valuable;" 4, "useful," and but 1—Eichberg—has found it "unsatisfactory," and therefore abandoned it. He uses hot baths in all but the anemic or very prostrated. As to the mode of employment 7 use ice bags, 7 approve cold wet compresses, 5 use cold sponging, 6 the cold plunge or tub, and 1—Janeway—applies the cold sheet to the front of body.

BILHARZIA HEMATOBIA.*

BY EDWIN WALKER, M.D., PHD.
EVANSVILLE, IND.

The parasite, Bilharzia hematobia, has been described by numerous authors, all of whom have supposed that Africa was its only habitat. All reported European patients have at one time resided either in Egypt or Cape Colony. One case has been reported in this country, by Dr. D. S. Booth, Sparta, Ill., the patient being a resident of that place, which is not far from the home of my patient, and after a careful perusal of his article and his description of the parasite, I believe it was a case of genuine bilharzia. There was not, however, any great care taken to avoid error, and this throws a slight shade of doubt on it; still, the symptoms of the patient and the description of the parasite are almost conclusive. I will describe my case quite fully, in order that you may judge for yourselves whether it is genuine or not. Every possible error was eliminated, and the parasite found in the specimen of urine passed in sterile vessels, as well as that drawn by catheter. That the parasite came from the bladder of the patient there is no doubt.

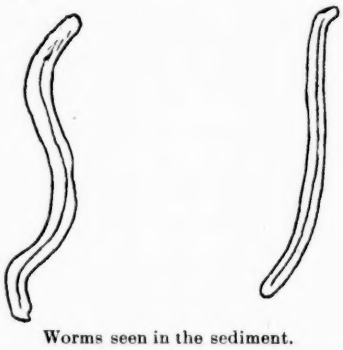
On account of the rarity of the disease, and from the fact that practically no attention has been paid to the subject in this country, I have taken the liberty of presenting a synopsis of the literature. I am indebted to my associate, Dr. James Welborn, for the microscopic and much of the detail work connected with the case, and to Dr. Jesse Ramsburgh of Washington, D. C., for a summary of the literature.

The patient, a slender, delicate-looking woman, 28 years of age, and weighing less than 100 pounds, first came to me on Feb. 19, 1897. She gave a history of an illness dating from soon after her marriage, nine years before. She had in the meantime suffered chiefly with pain in the right inguinal region, which had been so severe as to require a great deal of opiate. The right ovary was cystic and was removed. The left was found to be normal, and she made a good recovery from the operation, although for some time afterward she suffered considerable pain in the right side. She remained fairly well until May, 1898, when she began to suffer severe pains in the region of the bladder, and have hemorrhages, the latter coming on at irregular intervals, rarely more than two weeks apart, and finally were almost continuous, and were at first supposed by her physician to come from the uterus. From this time she suffered constantly with pain in the left side near the median line just behind the pubis. She was under the care of several physicians, and it was found, sometimes at least, that the hemorrhage came from the bladder. She returned to me in September, 1899, a picture of distress. She had been much reduced by repeated hemorrhages, and was suffering excruciating pain in the left side. An examination revealed a cystic ovary on that side, about as large as a lemon. Her physician had attributed her trouble to this, and I removed it two days after she came to the sanitarium. Her convalescence from the operation was without incident, her temperature never rising above 100 F. She had no flow of blood at the time of her admission, the urine contained a few mucous corpuscles, had the specific gravity of 1016, but was otherwise normal. After this her pains remained the same, and the hemorrhage returned, and we soon found that the flow was entirely from the bladder, and that the urine contained peculiar looking clots, which were of blood and mucus mixed and would float. She suffered some pain every day and was nearly always worse in the evening. The abdomen would become distended on the left side, would be tympanitic and so sensitive that any deep pressure could not be endured. Then suddenly there would come a gush of fluid, the specific gravity of which was from 1001 to 1006, containing almost no urea, sometimes absolutely clear and sometimes tinged with blood, and in this we found the ova of the parasite. After this there would be some relief. The quantity would vary from a few ounces to a gallon. These gushes of fluid were accompanied with discharges of gas, and the latter often came through the catheter.

Embryo seen in motion, sometimes very slow.

a. b. c.

a, b, c, ovum seen floating in the fluid. c seen to change its form from b to spherical shape.



Worms seen in the sediment.

The patient was accordingly anesthetized and a careful bimanual examination made, also a deep palpation of the entire side. As near as I could tell, the sac from which this fluid came was posterior to the bladder and peritoneum. I did not think it was hydronephrosis, because it could hardly have discharged that way; besides, it could have been more distinctly palpated when full, and I was able to palpate a kidney of normal size on that side. An endoscopic examination of the bladder was also made. On the mucous membrane were a few grayish white patches, irregular in size and shape, like cicatrices. The urethral orifices were elevated, more on the right side, and I could not get the ureteral catheter more than a few lines into the orifice. I was unable to find any opening of the sac from which these gushes of fluid came. In order to ascertain the exact nature of this discharge, I had the nurses prepare a vessel which was absolutely sterile, and the moment the patient felt it coming, it was caught directly in the vessel. At other times it was drawn from the bladder by catheter to be sure nothing was mixed with it. In the fluid we found the parasite. We never found it in the urine alone. The ova, embryos and two small young worms were found. The ova are

* Read before the Southern Surgical and Gynecological Association, New Orleans, La., Dec. 5-7, 1899.

oval, and at one end have a sharp spine and are granular bodies .08 to .1 mm. long. We noticed ameboid movements in some of them, changing from an elongated oval to nearly spherical form. The embryos were larger, varying from .1 to .12 mm. long, and about .05 mm. wide. They were granular also, presenting large globular bodies called by Cobbold, "sarcode globules." They had ciliæ or flagella all over, except the point. These were in active motion and when the embryo was free, not lodged in mucous nor clots, it would swim with great rapidity. When unable to free themselves the movement of the flagella could be plainly seen. They would live in the fluid for many hours. We were unable however, to keep any of them growing. Cobbold found that they lived longer in spring water. If only a small quantity of urine was added they soon died. In sea water they were at first quiet, but after twenty minutes again began to move. Those interested in a more extended description are referred to Cobbold's excellent article for quite a graphic description of the hatching and developing of the interesting little creature.

We also found two worms which I think were young ones. They were 4 or 5 mm. long and rounded at both ends, the head being larger. A distinct canal extended throughout the whole length. Neither of them were alive. They were certainly unlike the adults as figured by Roberts and others, but found as they were, with ova and embryos of various stages of development, I have no doubt of their genuineness. I have not, however, found any author who claims to have found the adult parasite in the urine. Cobbold found one in the portal vein of a monkey, but he does not mention having found them in the urine.

Synonyms.—The name Bilharzia hematobia was conferred by Cobbold, and is preferred to all others by nearly all writers since his time, as it gives a more accurate name, and at the same time hands down to posterity the name of its discoverer. The name of Distoma hematobium, given by Bilharz himself, is objectionable, because among the Distomidæ are included bisexual parasites.

Distoma capense was given by Harley, who supposed that those found in the Cape were different from those found by Bilharz in Egypt, which Cobbold shows to be an error.

Gynecophorus hematobium, by Diesing, is very appropriate, expressing the most distinctive peculiarity in the creature's anatomy, as well as in its life history; but neither this nor any of the remaining synonyms have found general favor, and the name Bilharzia hematobia is rapidly superseding all others in the later writings of helminthologists.

Discovery and Geographical Description.—The symptoms of the disease have been noted by physicians of the various parts of Africa and its neighboring islands, but more especially in Egypt. It was not until 1851 that Bilharz, in conjunction with Griesinger, discovered that the special symptom, hematuria, was due to the presence of a trematode worm and its ova. In 1857 Cobbold discovered a similar parasite in the portal vein of an African monkey. In 1864 Harley discovered the disease at Cape Colony and Port Elizabeth. Since that time cases have been reported from different places in Africa, by Henderson, Allen, Atherstone and others, in the Cape and Natal, and the surrounding country, including the Transvaal. It is probable that the disease exists in all parts of the continent from Cairo to Egypt.

The manner in which the parasite gains access to the body is still uncertain. Griesinger suggests that the larvæ exist in river water and fishes which inhabit it. Cobbold thinks they enter the body by ingestion of molluses which adhere to edible vegetables. Sonsins suggests that the worms gain access through drinking impure water. Members of the agricultural class in Egypt, who drink from stagnant pools or running streams, are more subject to the disease than the inhabitants of the cities who make use of purified water. Harley, Allen and others suggest the entrance while bathing, by small superficial veins, or by the urethra or rectum. It has been suggested that the worm may deposit the eggs on the surface of the body, and that they hatch out and find their entrance into the veins. Among the Boers it has been found in the males, while the females are almost exempt. It is more frequent among the boys. The explanation of this is probably due to the fact that the boys are constantly bathing in the rivers, while the girls do not, and this is an additional support of the theory that it is either deposited on the surface of the body, or finds entrance through the urethra or rectum. Newcomers, if they are adults, who venture to bathe frequently, contract the disease, while others who avoid doing so escape. Those who bathe in these streams frequently complain of itching on emerging from the water, and afterward show signs of the disease. It does not seem to be infectious by direct contagion.

Pathologic Effects.—The adult worm is found most frequently in the portal vein or its branches, and in the vesical veins, or in the blood clots contained in them post-mortem. The organs in which eggs are found, post-mortem, are the bladder, ureters, vesicular seminales, mesenteric glands, and the rectum. They have also been found in the liver, kidney and prostate by Kartulis, in the lung by Mackie and others, and in the left ventricle of the heart by Griesinger. The cavities into which they escape most frequently are those of the urinary apparatus, the pelvis of the kidney, the ureters and the bladder. They are almost always found in the urine, but they may also escape through the rectum, passing out with the feces.

The female worm after fecundation leaves the male and finds her way into the minute vein or soft tissue and becomes encysted. The eggs are then deposited in abundance, the veins burst and they are set free into the cavities in the neighborhood. This rupture is usually accompanied by hemorrhage, which is sometimes the only symptom noticed by the patient. This is the chief symptom of the disease, and gave to it its original name of endemic hematuria. Infiltrated, congested and ecchymotic patches, varying in size from a quarter to half an inch in diameter, covered with slimy mucous, are found post-mortem in the bladder, ureter and pelvis of the kidney, most frequently in the bladder. These patches are usually found on the posterior walls of the bladder. They are covered over with soft granular material, in which are often found lime salts. Sometimes these patches become the seat of warty outgrowths or vegetations. Should these be located in the ureter or kidney they may cause hydronephrosis, taking the form in the urinary organs of cystitis or myelitis, and in the case of the bowel, diarrhea or dysentery.

Symptomatology.—The passage of blood by the urethra is usually the first symptom. Sometimes uneasy sensations, seldom amounting to pain, are felt in the lumbar regions, or about the perineum, before any blood is noticed. As the patient is usually a child, the detection of blood on the clothing first directs attention. The period required for the disease to fully develop is

difficult to determine. Adults develop hematuria after a residence of four months at Rushenburg.

The blood is not as a rule mixed uniformly with the urine. It is almost always passed at the end of micturition, the quantity varying from a few drops to a teaspoonful, or even a tablespoonful. After exertion the amount is markedly increased. The blood thus seems to be vesical in origin. It may be highly colored or dark, and often passes in clots. When these come from the bladder or ureter the patient may suffer with marked colic. The hematuria is usually intermittent. Later, more or less pain accompanies the disease, the passage of clots giving rise to pain more or less acute, and in many, a dull, aching pain in the back is a prominent symptom. Irritability of the bladder, frequent micturition preceded by a burning sensation and followed by smarting and straining is quite frequent.

The disease is mostly confined to boys from 6 to 15 years of age. After that age hematuria generally disappears, and the other symptoms improve so greatly that the patient regards himself as cured. A careful examination of the urine will often reveal the presence of ova for many years afterward. Subsequently, oxalic and uric acid calculi frequently form in the kidneys and bladder. Renal growths are particularly common. The reaction of the urine is similar to any other which contains blood, but by microscopic examination the parasite is found, usually the ova and embryos, seldom the worms. These we find in the sediment from the urine. In my own case it was a discharge of water independent of the urine, which contained most of them. Shreds of mucous membrane containing imbedded ova in large numbers are frequently passed later in the disease.

Diagnosis.—Detection of ova in the urine and feces is the only method of absolute diagnosis. The urine is always acid, and frequently contains crystals of uric acid. As mentioned before, the chief symptom is hematuria.

Prognosis.—The immediate danger to life from this disease seems to be small, although it is doubtful whether any of the patients entirely recover. The disease is known to recur after ten or twenty years.

Treatment.—Indication: 1, removal of cause; 2, alleviation of symptoms; 3, prevention of the sequelæ.

1. For the removal of the worm from the blood of the adult and the ova from the organs and tissues, nothing has yet been found, for the parasite taking up its abode in the interior of the vein can not be reached except through the blood, and it is thus impossible to act on it efficiently by means of the ordinary anthelminthics. Harley recommends a mixture of oil of turpentin and male fern for bringing away the ova. By prophylactic measures we can limit the duration of the helminthiasis; by cutting off fresh infection, limit is placed to its duration. Vesical injections have been tried, with no benefits, except on the secondary lesion if any be present.

2. More success can be looked for in the alleviation of symptoms. Hematuria should be treated from the beginning. Usually the perchlorid of iron has given the best results; also liquor arsenicalis hydrochlorici. Give this along with the iron, with a bitter infusion, e. g., quassia. Allen recommends the use of santonin internally, and in my case I used this remedy and after that she improved, although the improvement was probably due to the freer flow of fluid from the cavity where the parasite was contained. Allen also recommends an injection, into the bladder, of 5 gr. of santonin to 3i of alcohol, which produces a severe inflammation of the bladder. I, however, fail to see the philosophy of this. Prohibit violent exercise, or exertion of any kind, particularly horseback riding. Prescribe complete rest. For pain, give opiates. As this is due to passage of blood clots through the ureters, give aromatic diuretics (buchu) and demulcent and diluent drinks; in later stages the pain is more probably due to passage of calculi. Treat accordingly.

Treat irritability of the bladder by injections, boric acid in saturated solution, or weak carbolic acid solutions. Epistaxis, diarrhea and digestive disorders frequently call for treatment appropriate to their nature. The practice of masturbation must be looked into. No doubt the genitals become irritated from the excessively acid urine. The habit is exceedingly common among the victims of bilharzia.

3. Daily use of bicarbonate or citrate of potash in weak solution is especially commendable with the object of combating tendency to calculi. Surgical interference is sometimes, though rarely, necessary except for large calculi in the bladder, or papillomata and other growths in the rectum due to deposits of the ova.

BIBLIOGRAPHY.

Allen: Remarks on Bilharzia; Lancet, London, 1882, i, 51-53. Bilharzia Hematobia (trans.); Albany Medical Jour., 1888, ix, 202.

Booth, D. S.: Bilharzia Hematobia (Cobbold), Distoma Hematobia (Bilharz), case; West. Med. Reporter, 1882, iv, 81-84.

Bawlby, A.: Organs and Parasites from Cases of Bilharza; British Med. Jour., 1889, i, 1891.

Chute, H. M.: Bilharzia Hematobia, Distoma Hematobia, Endemic Hematuria; S. A. Med. Jour., East Lond., 1888-9, iv, 85-89.

Crocker, H. R.: Case of Hematuria from Bilharzia Hematobia, Trans. Internat. Med. Congress, Wash., 1887, iii, 420-424.

Curtis, B. F.: Bilharzia Hematobia, case; Annals of Surgery., Phila., 1896, xxiii, 56-58.

Dight, C. F.: The Bilharzia Hematobia, Trans. Internat. Med. Congress, Wash., 1887, iii, 420-424.

Handford, H.: Case of Endemic Hematuria due to Presence of Bilharzia Hematobia; Second Supplementary Report, Trans. Clinic Soc. of Lond., 1893-4, xxvii, 48.

Napier, A.: Bilharzia Hematobia; Glasgow Med. Jour., 1887, xxviii, 460-463; also Trans. Glasgow Path. and Clin. Soc., 1886-91, 1892, iii, 88-91.

Sonsin, P.: Treatment of Bilharzia Disease; British Med. Jour., 1885. Discovery of the Life History of Bilharzia Hematobia (Cobbold), Lancet, 1893, ii, 621.

Zancoval, G.: A Specimen of Bilharzia Hematobia with Ova in the Tissues of the Bladder and Large Intestines; Trans. Path. Soc., Lond., 1881-2, xxiii, 410-412.

Cobbold: Bilharzia Hematobia; British Med. Jour., 1872, ii.

CORNEAL CORPUSCULAR ACTIVITY.

BY JOSEPH E. WILLETTS, M.D.

Ophthalmic Surgeon to the Eye, Ear and Throat Hospital.

PITTSBURG, PA.

At a meeting of the Medical Society of the State of Pennsylvania, held at Chambersburg, in May, 1894, I described and demonstrated to Dr. Adolph Koenig, and other members of the Society, the phenomenon of vision which two years later Bowditch briefly described and classified as the retinal circulation. In an address on ophthalmology, delivered before the same Society a few months later, I gave a detailed description of the phenomenon, under the title of "Corneal Corpuscular Activity," which as yet has not been disproved. The theory of its being the perception and recognition of the blood corpuscles in the retinal capillaries is based only on its apparent resemblance to the capillary circulation, for there is no evidence to sustain it. Various observers' opinions in reference to the rate-movement of these bodies differ.

Norton[1], in a recent article, says that "their motion is a peculiar, jerky one, each particle moving forward rapidly for a moment and then for a moment having a slower motion," and further says "that the jerks of this motion are synchronous with the pulse-beat and the number of jerks may be increased by anything that

will increase the number of heart-beats, for example, physical exercise." He has evidently overlooked the fact that the pulse wave is not extended to the capillaries in normal conditions. My own observation of this phenomenon is that it is *not* synchronous with the pulse, nor can it in any way be affected by the heart's action. Stasis or intracutaneous tension increases their speed, but has no influence on their action, as stated in the original description. The most conclusive evidence against the capillary theory is that in aortic insufficiency there is a capillary pulse, plainly distinguishable by a distinct flushing under the finger nails, at each contraction of the heart and which consequently must be applied to the entire capillary system, and must, if these bodies be in the blood circulation, be communicated to them, so that their motion would be synchronous with the heart-beat, but they are in no way influenced in this condition. This evidence, in connection with the fact that these bodies cross and recross the central field of vision which corresponds to the fovea centralis, that contains no capillaries in which to circulate, is incontrovertible evidence, from a physiologic standpoint, that this phenomenon has no connection whatever with the blood circulation. From an optical point of view it must be remembered that blood-corpuscles are microscopic bodies, and that the capillaries represent the retinal elements. If we can not distinguish them without a microscope, under the observance of all optical laws it is difficult to comprehend an optical law that will not only enable the retina[2] to perceive its own elements, but to distinguish microscopic bodies through the capillary walls[3], differentiate between them and exclude the red corpuscle, for it does not enter into the phenomenon described.

The eye may be likened to a camera, which might possibly take a photograph of an object placed inside of it, but to expect a photograph from an object placed in the film itself is something that optical laws do not allow. The two conditions are identical, and the retina can no more perceive its own elements than a film in a camera can photograph its component parts.

To recapitulate, we find among the objections to the retinal capillary theory the following important facts:

1. *The red corpuscle*[4] *is not associated with this phenomenon.* For any opaque substance posterior to the lens is perceived as a scotoma only, and if the red corpuscle took part there must be a corresponding number of shadow dots on the retina, which is not the case.

2. If the retina[4] does not recognize the capiillaries or arteries themselves, it can not appreciate their microscopic contents.

3. The corpuscles[4] in the capillaries are *dependent on their media for motion, while the bright bodies described are independent of their media and of each other.*

4. They cross and recross the central field of vision corresponding to the fovea centralis, that contains no capillaries in which to circulate.

5. In aortic insufficiency, in which condition we have a capillary pulse and which, if they were in the capillaries must be communicated to them, so that their movement would be synchronous with the pulse, but is not, is conclusive evidence that they are not in the blood circulation.

6. No known law enables[2] the retina to perceive its own elements.

A recent article by Dr. George M. Gould[5] on this subject, in which he describes the phenomenon as a reflection from the corpuscle in the retinal capillaries and classifies it as "phoses," is, I am compelled to say, untenable. If it be either one or the other, it can not be both, for they are two separate and distinct conditions without analogy. All phoses are subjective light symptoms; shimmerings of light, phosphenes, so-called stars, the light seen when striking the eye suddenly with the finger, etc., are all light reflexes, dependent on retinal irritation from sudden impact, increased tension, blood-pressure in the retina or optic nerve, and have no connection with the visual apparatus, as far as sight is concerned, and may be seen after the eye is removed, from cicatricial pressure on the optic nerve[6]. (Park.) If it be a reflection, therefore, it can not be classified with the "phoses," for the perception of a reflection is a normal physiologic function and is appreciated by the retina according to intensity, the same as light and shadow are recognized by the eye under any condition. To produce this phenomenon by reflection, we must demand of the corpuscle that it maintain a fixed plane or angle during its entire course, for in the phenomenon previously described by me under the title of "Corneal Corpuscular Activity," *the body is seen from the time it first makes its appearance, through its entire course, uninterruptedly, until it disappears.* A corpuscle in transit through devious capillary channels, must and does repeatedly turn over, and can not maintain a given axis for an instant, for its propulsion is dependent on its medium, and a reflection from such a body, were it possible for the retina to perceive a reflection from a microscopic body, could only appear as a series of interrupted successive glints.

A reflection from a reflecting surface consists of the projection of the object at the point of incidence. The reflecting surface itself does not project itself, *as itself,* except in specially prepared surfaces, such as mirrors, etc., and then in its entirety only in ratio to light intensity. In semitransparent bodies most of the rays are lost through penetration, so that reflection from a transparent body such as a corpuscle, could not under the happiest conditions project itself as a corpuscle, especially when we remember that the reflection from globular or convex bodies is always very much contracted, and linear in character, so that a phenomenon produced by reflection from corpuscles would in no way resemble what I described.

Dr. Hamilton Stillson[7], Seattle, Wash., in a recent article read before the AMERICAN MEDICAL ASSOCIATION, gives a number of most interesting experiments of subjective visual sensations. He assigns the bright bodies to the lymph channels of the vitreous and cornea, takes exceptions to the theory of capillary circulation, and in a letter to the writer, July 19,1899, says: "since reading the reprint of your former article, I am constrained to agree with you that they represent the corneal circulation only."

The phenomenon in question[8] consists of bright moving bodies filling the field of vision. Their motion is most eccentric; they may appear in groups of two or three, but generally singly, and when grouped travel more slowly; they are independent of each other, some moving faster than others, and when moving faster appear elongated, which is an optical illusion caused by the falling of the lymph behind them.

Being microscopic[8] bodies, the ability of the retina to see them at all is dependent on the proximity of the lens to the cornea.

The fact that the cornea contains no blood-vessels accounts for the non-appearance of the red corpuscle, the interlacing lymph canals of the cornea forming the courses which resemble the capillary system. As pre-

viously stated in my original article, all the evidence is in favor of "these bright bodies" being the ameboid leucocytes circulating through the lymph canals of the cornea. A third and final paper on this subject will dwell on the theory[5] of chemotaxis and physiology of the white corpuscle, as studied from the cornea.

BIBLIOGRAPHY.

1. Norton: Seeing Capillary Circulation in One's Own Eye; JOURNAL, July 15, 1899.
2. Willetts: Corneal Corpuscular Activity; Pa. Med. Jour., December, 1894, p. 334.
3. Willetts: Address in Ophthalmology, Pa. Med. Jour., September, 1899, p. 145.
4. Ibid.
5. Gould: Concerning Corpuscular Phoses and Aphoses; Phila. Med. Jour., July 22, 1899, p. 179.
6. Park: Archives of Ophthal., 1892 or 1893.
7. Stillson, Hamilton: The Subjectoscope; JOURNAL, July 8, 1899.
8. Address in Ophthalmology, 1897.

EVISCERO-NEUROTOMY; A NEW OPERATION.*

BY J. G. HUIZINGA, M.D.

Professor of Ophthalmology at the Post-Graduate Medical College; Chief Ophthalmic Surgeon to the Halsted Street Hospital; Member of the AMERICAN MEDICAL ASSOCIATION, the Chicago Academy of Medicine, the Grand River Valley Medical Society, Etc.

CHICAGO.

The subjects of evisceration and enucleation of the eyeball are just now commanding more attention than in the past, especially in view of the fact that they are to be made the subjects of special inquiry at the next meeting of the International Medical Congress at Paris. Barring special conditions and indications, both enucleation and evisceration have their advantages and disadvantages.

The advantages of the former are a rapid healing of the wound with the minimum of local reaction, and the absolute certainty that it will not be followed by sympathetic inflammation in the other eye. Its disadvantages are that it is more radical than necessary, in that it removes too much tissue and leaves a very poor stump for an artificial eye.

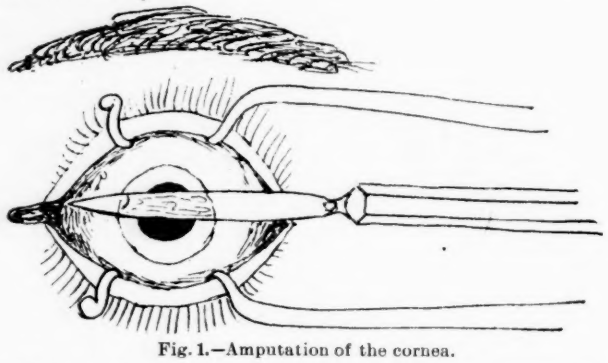


Fig. 1.—Amputation of the cornea.

The disadvantages of evisceration are just the opposite of the advantages of enucleation, viz., a considerable local reaction and an occasional case of sympathetic inflammation. Though the danger from this source is rare, yet it is not unknown, and the operation is to that extent objectionable. Its advantages are a more perfect stump for prothesis, especially when an artificial vitreous is introduced.

To obtain the advantages of enucleation, viz., absolute certainty that sympathetic inflammation will not occur; as well as the advantages of Mules' operation, viz., a good large stump for an artificial eye, I have originated the following method: Having obtained as aseptic a field of operation as is possible, the cornea is amputated and the opening thus made enlarged laterally by slitting the sclerotic up to the insertions of the internal and external recti muscles.

*Read before the Chicago Academy of Medicine, Dec. 8, 1899.

The contents of the globe are then removed in the same manner as for simple evisceration.

While an assistant keeps the mouth of the wound widely open, a pair of forceps is introduced into the inside of the ball, through the opening made by amputation of the cornea, and the sclerotic coat is caught about midway between the equator and the posterior pole, and button-holed with blunt-pointed scissors.

This opening is then enlarged laterally, parallel with the equator, until it has encircled one-half of the ball. A blunt, curved enucleation scissors is then introduced through this opening and passed back of the globe, and the optic and ciliary nerves are severed. Having thus loosened the eyeball posteriorly, this part can then be drawn forward up to the corneal opening by partly

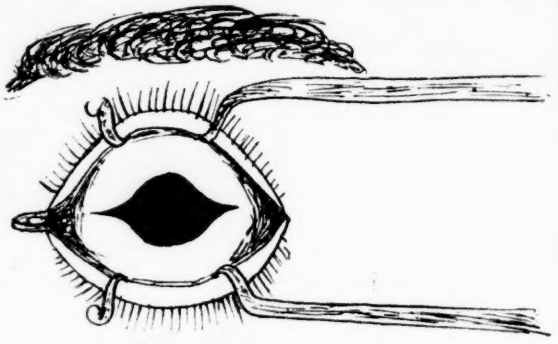


Fig. 2.—After corneal amputation.

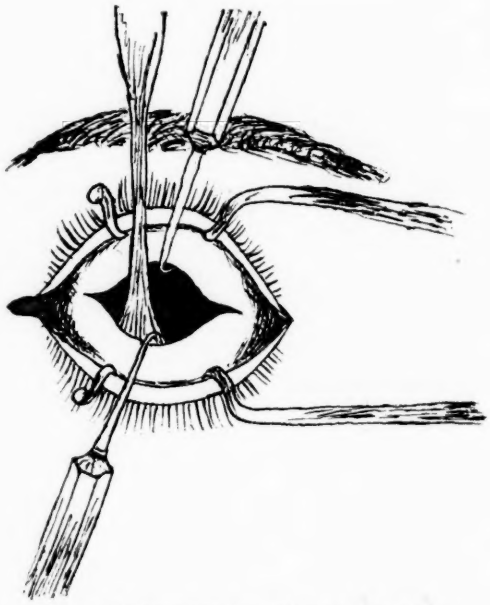


Fig. 3.—Eviscerating the contents of the globe.

everting the sclerotic from behind by the aid of forceps, and that part of it, including the nerves, is removed by continuing the cut parallel with the equator until it extends entirely around the eye. In this manner the posterior segment of the eye, a section somewhat larger than the cornea is removed, and all nerve connection thoroughly and permanently obliterated, while the rest of the sclerotic with its muscle attachments is allowed to remain.

The introduction of an artificial vitreous is very desirable, notwithstanding the fact that it is not always retained and the difficulty occasionally experienced to obtain prompt and perfect union by first intention. Where such unfortunate conditions do not obtain, and they are in the majority, the results are so much better for prothesis that I believe this practice would be more generally adopted if some material could be obtained

that is more suitable to the purpose than either glass or metal. This subject will be discussed in another paper later. However, the use of the fenestrated aluminium ball in connection with this operation, as advised by Bryant, in implantation, ought also to be followed by good results. As a segment of the sclerotic has been removed, there is no longer any reason why the inside of such a sphere should not fill in with new connective tissue, which, being continuous with that of the orbit, would prevent its extrusion.

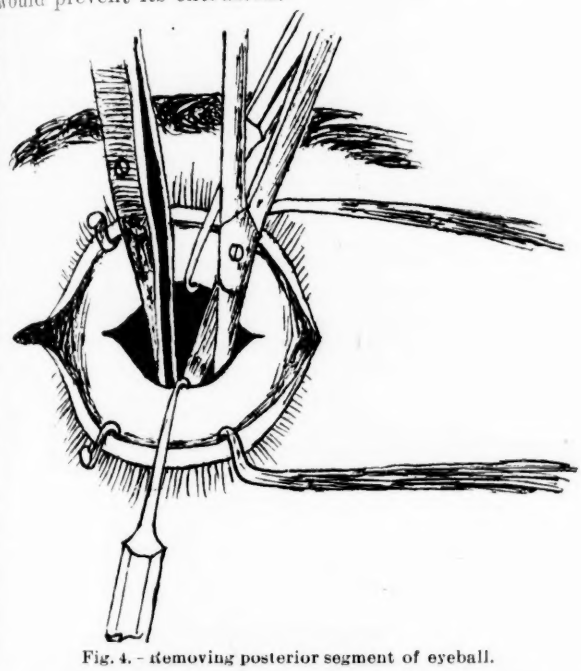


Fig. 4.—Removing posterior segment of eyeball.

The wound is closed with five silk sutures, and the after-treatment is the same as in evisceration. The local reaction following this operation has in no case been as severe as that following simple evisceration. In fact, I should say that it has been no more severe than after enucleation.

Fig. 5.—Posterior segment including part of optic nerve removed.

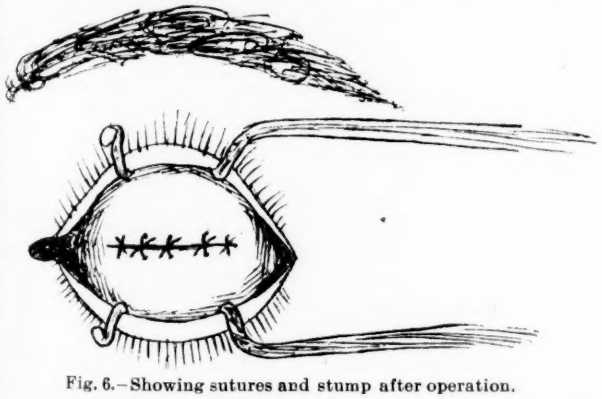


Fig. 6.—Showing sutures and stump after operation.

This operation is strictly in accord with what I consider one of the first rules in surgery, viz., to obtain the maximum in results by the removal of the minimum of tissue.

In conclusion: 1. This method, with the use of an artificial vitreous, leaves as perfect a stump as after Mules' operation. 2. It prevents absolutely the dangers of sympathetic inflammation. 3. The local reaction appears to be no greater than after enucleation. 4. We obtain the maximum in results by the removal of the minimum of tissue. 5. We obtain, besides this, all the advantages claimed for Mules' operation, as well as those of enucleation without their disadvantages.

100 State Street.

RAILWAY HYGIENE AND EMERGENCY EQUIPMENT.*

BY W. W. GRANT, M.D.

SURGEON CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY CO.

DENVER, COLO.

Coming within the province of duty of railroad surgeons, it may be said with much probability that, unless they take a positive interest in the matter, slow progress will be made in the sanitation and hygiene of railway travel. So far we have devoted ourselves chiefly to the treatment of injuries and the consideration of litigation cases. Especially are the furnishing and ventilation of coaches and first treatment of the injured matters of supreme importance and always worthy of special interest and consideration. It is often a long time after the recognition of an evil before the successful remedy is discovered and applied. The best means in the accomplishment of a given purpose is generally the result of countless theories and suggestions, and careful, patient investigation. The comfort, health and safety of employees and passengers are cardinal elements that must command the serious consideration of railway corporations and the railway medical corps. Should we examine the air of a Pullman coach, with a spectroscope, the myriad living things to the square inch revealed, many inimical to health, would be enough to cause the shades of Schwann, Helmholtz, Kircher, Pasteur and Tyndall to weep for the living.

The ventilation of houses and public buildings has never been easily accomplished, but that of a moving car is a matter of more than ordinary difficulty. The transom-window near the top promptly admits more smoke, cinders and dirt than pure fresh air, and is not a very satisfactory device. The sudden frequent and extreme change of temperature—generally when passengers and porters are asleep—is a fruitful cause of colds and sickness. The current of outside air is much influenced by the motion of the train. The sudden displacement of a large volume of air by the train in rapid motion condenses and gives increased impetus to the air without, which rushes with unusual force through car windows and doors, and always prevents a uniform, comfortable circulation of air within the car.

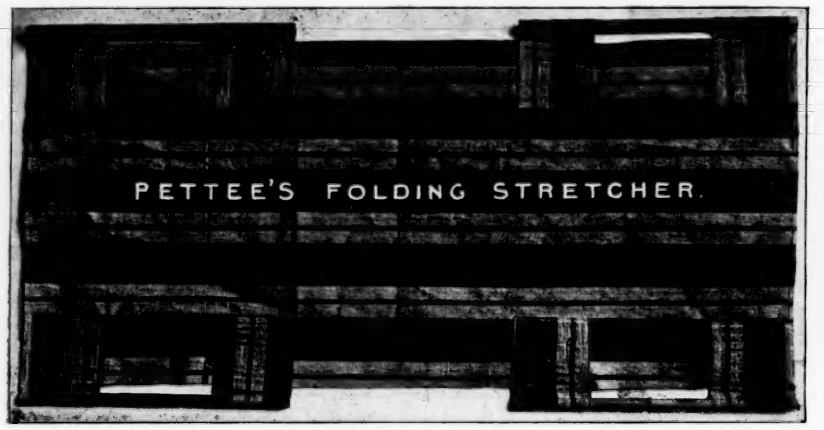
I may suggest that it might be an improvement if the ventilator windows were opened and closed by a valve-like arrangement, made of the usual glass and wooden frame, and fastened by hinges at one end, preferably toward the engine, on the outside, while on the inside a similar one may be placed, with the fixed, or hinge, end in a reverse direction; a fine wire screen might be placed between. This arrangement would occupy as little space or less than the tilted window now in use. The force and volume of the air current would be broken, and the inside air would be less subject to violent disturbance, and less smoke and dirt would enter the car.

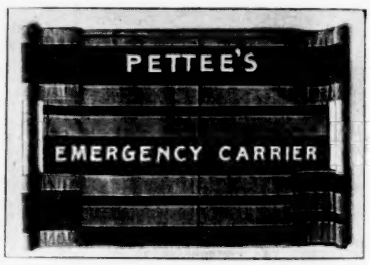
The only perfect remedy for part of the evil is the more complete combustion of fuel and smoke, which is eminently desirable, not only as an economic measure

* President's Address, delivered before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12 and 13, 1899.

of great value, but in behalf of the comfort and health of the traveling public. Railways and road makers will exhibit commendable concern for the well-being of employees and passengers and the protection of cars and equipment if the top cover of roadbeds is composed of hard dirt, or at least something better than cinders and fine gravel. Experiments now being made with crude petroleum may prove satisfactory in allaying this nuisance.

It may be of interest to state what few seem to know, how the furniture of cars is cleaned. It is done by compressed air forced through hose, with a nozzle, and a slit in the latter. By running this over cushions, blankets, drapery, etc., the dust and loose dirt are effectually removed. But this does not meet the indications as to disease germs and the prevention of infection. I have recently seen, on Pullman coaches, two cases, and they are common, which strongly illustrate the necessity of more positive action to protect the public against infectious diseases in railway transit. One was a patient with scarlet fever, lying in a berth all day, exposing every person in that car and in particular those who might occupy that berth soon after. The other, on another road, was a patient with advanced tuberculosis. She should never have left home, but like many others was, as a last resort, put on a Pullman car (at noon) and a berth prepared for her, as she was too weak to sit up.





She was coughing and expectorating constantly. Nothing but boiling water, or fumigation with some antiseptic, such as formaldehyde gas, could make those berths safe for the next occupants.

In some investigation and correspondence as to what action is officially taken by the Pullman Company to protect the public from infectious and contagious diseases, I am able to state on the authority of the general superintendent, at Chicago, that "no printed regulations or instructions to employees, relating to hyygiene, protection of patrons from contagious diseases, nor in reference to car cleaning, have been issued, though it is admitted best that cars should be fumigated after being occupied by a consumptive. Instructions were issued to district superintendents, in 1898, that all cars running into Colorado and California should be fumigated at least once a month. My investigation and information is to the effect that employees report few cases of contagion or infection, even if recognized, which is not often; that blankets are seldom washed or fumigated, and that no complete or systematic effort is made by the company or corporation to meet the condition in either a scientific or thorough business manner. The whole question is treated in a perfunctory sort of way. Besides, it must be manifest that the employees can only detect infection, if at all, in the most advanced or pronounced cases.

Fully half of the state boards of health, the American Public Health Association, and the General Baggage Agents' Association have formulated very rigid rules governing the transportation of dead bodies. Those dead of smallpox, cholera or yellow fever, can not be shipped. Those dying from ordinary infectious and contagious diseases can only be shipped after the thorough application and injection of antiseptics, the body put in an air-tight case. These rules are in the main commendable. With their execution there is no danger to employees or to the public. But I may be pardoned for noting the grave inconsistency in the treatment of those bodies for shipment and the transportation of the living subject. The time will doubtless come when people suffering from infectious and contagious diseases will travel in cars or compartments specially provided for them. At present there is but one considerate course for railway companies to pursue, and the only safe one for the public, and that is not only the cleaning, but the disinfection, of coaches and furnishings with every trip. This is of special importance to those roads going to the health resorts of the country.

The importance of renovating and disinfecting a house that has been inhabited by patients with a *contagium vivum* is not to be questioned, and the necessity exists with as great force, certainly, to the more closely confined and vitiated air of passenger coaches and Pullmans, containing at least a surplus of carbonic acid gas and a minimum of oxygen.

It must be conceded that the materials used in furnishing railway coaches—plushes and velvet cushions, woolens and draperies of every kind—afford the best possible nidus for the protection and preservation of germs, and they are also the most difficult to clean. Every consideration of hygiene and the public health demands their abolition for such purposes. Cars can be finished and furnished in material with a smooth surface, such as hard wood and leather, which can be more easily, perfectly and quickly cleaned, and yet be as elegant as the most refined taste could desire. Less carving and embossing, less plush and velvet and drapery that protect and preserve filth is the dictate of every principle of hygiene. The railway company, with its army of employees and passengers, should be fully abreast of the time in word and action in its humanitarianism, which demands that adequate and suitable preparation shall be made for the immediate care and comfort of the injured.

Railway accidents are common and injuries frequent, yet few roads are prepared to meet these exigencies promptly and well. Herrick, in *Railway Surgery,* recommends a small tin box with four roller and four triangular bandages, sterilized gauze and a solution of morphin and strychnin for every train. Litters are advised for certain stations.

Whatever conduces to the comfort and health of passengers evinces a thoughtful regard on the part of the company that is commensurate with its responsibilities. Such a sense of obligation is certain to meet an appreciative response on the part of the public. When a train starts on its journey, it should be supplied with a box containing at least half a dozen first-aid packets similar to those supplied to the army, besides a few roller bandages and splints of felt, or binders' board, and absorbent cotton. The emergency package should contain at least a folded strip of sterilized gauze about three inches wide and twelve inches long, a wad of absorbent cotton, an envelope with a dram or two of antiseptic powder, composed of salicylic and boric acid, in the proportion of about 1 to 4—as recommended by Senn—and a strip of rubber plaster one by eight or ten inches. The powder should be applied directly to the wound, covered by cotton, and a pad of gauze held in place by the plaster. The bandage may be applied over all. This should be done at once, in the car or on the ground, and employees should be instructed as to the use and application. It should be remembered that it is sometimes hours before the service of a physician or surgeon can be secured, and the prompt use of the first-aid dressing would undoubtedly be the frequent means of preventing infection of the wound, and in consequence assure an earlier recovery.

For handling and removing a patient to a place of safety, there should be a litter with every train. I have the pleasure of presenting for your inspection and consideration two simple, convenient and inexpensive emergency stretchers, the recent invention of an old soldier of the Civil War, Mr. William Pettee, of Denver. They have the endorsement of the regular army surgeons and officers of the Department of the Colorado, and of the surgeons and officers of the National Guard of Colorado. They will fill a useful place in certain army contingencies, in hospitals and in the medical department of the railway service.

The small hand litter is fifteen by nineteen inches, and weighs eight ounces. The large one is about six feet long and nineteen inches wide, and weighs about two pounds. The former can be used by one or two men, the latter by two or four. The large one can be so folded as to supply the place of the small one, which can be dispensed with. They are made of strong ducking, and have short, hardwood handles. This stretcher is the first of its kind and will especially fill a needed place in the surgical equipment of the railway service.

The improved ventilation, better and more uniform heating of cars, though the latter is largely a matter of management, clean water tanks and the occasional flushing of drains with antiseptic solutions, higher regard for the public health in the equipment and management of cars and the railway service as to infectious and contagious diseases, are matters of too much concern to be treated indifferently. These, with proper preparation and regulations for the treatment of the injured, I have deemed it appropriate to commend to the considerate attention of railway officials and surgeons. The criticisms and suggestions are made in the firm conviction that those who promote and manage railway enterprises have a conscientious regard for the public weal, and will correct evils when their existence is known; while the life, service and aims of medical men find them always willing advocates in every effort for the alleviation of suffering and the promotion of needed reforms.

OPERATIVE TREATMENT OF CHRONIC GLAUCOMA.*

BY ALEX. W. STIRLING, M.D., M.B., C.M. (EDIN.); D.P.H. (LOND.).

ATLANTA, GA.

The subject of the operative treatment of chronic glaucoma was chosen for me by the worthy president of our Section. It is not that part of this symposium which I should myself have chosen, because it is a somewhat unsatisfactory one. There is so much diversity of opinion as to what constitutes simple glaucoma that when one surgeon speaks of it, another may be putting the same case down as optic atrophy. Then, in considering the results of treatment, there has been no agreement as to what is meant by iridectomy. To compare treatment by myotics with treatment by operation, which is the point of importance in this branch of the subject, it is necessary that we know exactly the nature of the operation, as well as the composition and use of the myotic. Especially is it important that a clear distinction be drawn between iridectomy and iridectome-dialysis, which in their relation to glaucoma are very different operations; and I would suggest again, as I have already suggested elsewhere[1], that in the future statistics, which it is important should be compiled, stress should be laid on this point. As it is, it is simply impossible in comparing treatments to give anything better than impressions; and as the opposing camps are markedly and not unequally divided there is no certainty as to the ultimate outcome of the disagreement.

In writing this paper I might have put down the various arguments at length, as I at first intended to do, but I find that that would occupy more than the allotted ten minutes, so I have decided to lay the matter before you in a condensed form, which will, however, suggest points of interest for discussion.

The subject is dealt with under the following heads: 1. The object to be obtained. 2. Operation *versus* myotics. 3. Iridectomy. 4. Sclerotomy. 5. Other operations. 6. Time to operate.

1. *The object to be obtained.*—It is important to bear in mind that though there may be no apparent rise of tension or shallowing of the anterior chamber, the tension may really be at times above the normal of the affected eye, and the invisible periphery of the iris may be in contact with the cornea. The primary object of both myotics and operation is to open the angle of the anterior chamber by separation of the iris from the cornea. When these are actually firmly adherent, neither treatment will be successful, but operation may benefit by establishing a new filtration area through the walls of the globe at the position which may include the adherent root of the iris. Fistulous openings are common after operation, and are then frequently due to the inclusion of atrophied iris or ciliary processes.

2. *Operation vs. Myotics.*—There is still great difference of opinion as to which of these gives the better re-

*Presented in a Symposium on Chronic Glaucoma, before the Section on Ophthalmology at the Fiftieth Annual Meeting of the AMERICAN MEDICAL ASSOCIATION, held at Columbus, Ohio, June 6-9, 1899.

[1] Glaucoma: Its Symptoms, Varieties, Pathology and Treatment. Jones H. Parker, St. Louis, 1898.

sults, and that because the outcome of neither has been brilliant. It is probable that in the majority of cases neither operation nor myotics have been used to their best advantage. Myotics have not been instilled at sufficiently short intervals, and iridectomy at least has been performed without a proper regard for the pathology of the disease. It is therefore impossible at the present time to state dogmatically which is the better procedure when properly employed, but the greater the consideration given to the subject, the greater to the writer's mind becomes the probability that operation will tend to replace myotics. At present we are dependent too much on mere impressions, and carefully compiled figures of results with myotics on the one hand, and the different operations on the other, are much to be desired.

3. *Iridectomy*, when done in the ordinary way, may in recent cases separate by traction on the iris and by the general commotion within the anterior chamber, the iris from the cornea, the iritic root being left to prolapse into the sclerotic wound or to become adherent at a later date. An iritic prolapse is dangerous to the future welfare of the eye, on account of the inflammatory action which it may induce, and the path which it opens for disease germs to the interior of the eye. At the same time it may, by keeping porous the wound in the sclera, so far accomplish our object as to prevent a recurrence of high tension. But in operating we desire to make, if possible, a permanent cure without the production of new dangers. We can think of no better procedure to this end than the removal of a part of the iris to its utmost periphery, so that there can in the future be neither adhesion nor prolapse. This can be done only by tearing the iris from its delicate root, snipping at the beginning and the end of the process alone, —iridectome-dialysis. Unfortunately, in old standing cases we frequently can not separate iris and cornea, and then we must trust to the formation of a porous scar.

4. *Sclerotomy* should never be performed where the iris does not contract well under a myotic. Wecker's method is the least likely to result in prolapse. Some surgeons believe that it is also less liable to diminish the size of an already much contracted field than is iridectomy, but that is doubtful, and where the wound lies in front of the iris it is difficult to see that it has any theoretic advantage over iridectomy, while in practice it is improbable that it has done so much good as has iridectome-dialysis.

5. Among other operations is Nicati's sclero-iritomy, by which communication is set up between the anterior and the posterior chambers by a knife, entered at first parallel to the iris, being turned and cutting perpendicularly to its base at the same time that incisions are made in the sclera by the near end and point of the knife. This, in Nicati's hands, has proved a better operation than sclerotomy, though not so good as iridectomy, by which he enters the posterior chamber and divides the iris along with the sclera, on which it rests. There is danger of wounding the lens in this operation. Each of these two operations, so long as the scleral wound is porous, puts the posterior chambers in direct communication with the subconjunctival tissue, and their beneficial action lies in the porosity of an imperfect union, for a good cicatrix is as impervious as the normal sclera. For this reason, and despite the danger of future infection and inflammation, some surgeons have even advocated the intentional formation of a cystoid cicatrix. Or, the operation may open up a direct communication between the posterior chamber and the normal filtration area.

6. *The time to operate* is, generally speaking, as early as possible. As chronic glaucoma is usually sooner or later, bilateral operation on the second eye is to be recommended as soon as the disease appears in it.

DISCUSSION.[2]

DR. LYMAN WARE, Chicago—Empty and vain words aside, we all know that Dr. de Schweinitz[3] is nothing if not practical. We all know the importance, the absolute necessity of early diagnosis in glaucoma. Should these scotomata, to which Dr. deSchwenitz has called our attention, enable us to diagnose the disease before the stage of tension, excavation and pain, no one can estimate the value and importance of the point he has brought out in his paper. While surgical interference is of the greatest benefit in many cases, it is not by any means everything in all cases. We have all seen cases where operative interference has not only not stayed the disease, but seemingly hastened its course to certain blindness. Shall we in these unfortunate cases stand idly by and complacently confess that all has been done that could be done? Shall we descend to the level of our legal brethren who, when no exact cause can be obtained, consider it the act of God and give it not another thought.

Perhaps I can more clearly illustrate what I wish to state by briefly recalling one or two typical cases.

Mrs. M., aged 55, a widow, in 1884 consulted me relative to failing vision and pain in the left eye. She had all the pathognomonic symptoms of glaucoma—tension, pain, excavated disc, and widely dilated pupil. She was told that she could be relieved of pain, but vision could not be restored. Iridectomy was done the next day; pain perfectly relieved, but the eye remained sightless. She was told that if any of the symptoms she had just had in the left eye should occur in the right, which was possible, she must consult a specialist at once, the very day that any symptoms might occur. Vision in the right eye at this time was fully normal—20/20. In 1896 Mrs. M. again visited me, fearing her sight was beginning to fail, although she had little or no pain about the eye. Vision was 20/40; tension slightly increased. Immediate operation was advised, which was consented to and performed that day—upward iridectomy. Operation was uncomplicated, tension perfectly relieved, and the next day she thought her general vision better. On the second day there was a slight amount of blood in the anterior chamber, and vision was reduced to bare perception of light, and, what was still more unfortunate, she thought that she was about to have an attack of rheumatism, to which she was subject. She was at once placed on antirheumatics, and not only did her symptoms all subside, but her eye at once began to improve, and in a few weeks it was quite as good as before operation, and when last seen, a month or two since, was unchanged.

Mrs. H., a widow, aged 60, called on me in 1897. As she thought, vision was failing in the right eye, and as she had lost her left eye a few years before, she was very anxious to preserve what sight she had. The left eye gave all the history of chronic glaucoma, and was absolutely sightless. In the right eye, tension was somewhat increased; some pain in and about the eye, and all the symptoms of beginning glaucoma; vision 20/40. On further examination, well-marked tibial syphilitic nodes were found, and other undoubted indications of syphilis. She was at once placed on heroic antisyphilitic treatment, and the eye at once began to improve. In a few weeks the vision of the right eye was fully restored to 20/20, and has so remained. Had the diagnosis in these cases been correctly made and proper treatment instituted, could not the eyes have been saved? Certainly, in the first case reported, the operation, although successfully made and uncomplicated, was of no avail. Is not prevention better than cure? Does not the man who can prevent disease rank him who can cure, however perfect may be his cure.

DR. J. L. THOMPSON, Indianapolis, Ind.—The treatment of

[2] The other papers in the symposium, by Drs. G. E. de Schweinitz and S. O. Richey, are not printed in THE JOURNAL, having appeared elsewhere.

[3] An Abstract of Dr. de Schweinitz' paper may be found in THE JOURNAL, Dec 9, 1899 ¶ 76, p. 1481.

glaucoma constitutes one of the most important features of this symposium, and as we have but five minutes each for discussion and as our Chairman has said we need not be confined strictly to the paper read, I shall confine my remarks to the operation.

As to the question "whether to operate in glaucoma simplex," it is a very difficult one to answer. In acute glaucoma we can promise much from operative interference. Iridectomy cures a very large majority, and it is the operation par excellence, but how different it is in the chronic variety. My experience has been that if we do not see our patients for many years after we have operated on them, we usually find that the sight has failed, but fortunately even in these we can in many still preserve some sight by the use of myotics and massage. These patients, however, are usually well-advanced in years, and death often comes to their relief before they are totally blind. How very applicable are the words of Solon to these cases. You recall what he said to King Croesus, who, on showing his treasures to him asked that sage if he did not consider him one of the happiest of men? "Count no man happy until he is dead," was the reply, and so it is in chronic glaucoma. Count no one happy who labors under this terrible disease, until he is dead.

DR. LEARTUS CONNOR, Detroit, Mich.—There are two observations that have occurred to me and which have been of interest in every case of glaucoma of this nature that I have seen. If one eye was affected and the other not, the better eye and the other one too, so far as I could observe, always had a defect of neglected refraction at the time it came under my notice. The second point is that in all of those cases that I have seen there was that indefinite condition—call it rheumatic, gouty, defective assimilation, whatever you will—of imperfect transformation of food into tissues, and retention in the fluids of the body of an undue amount of abnormal material. For myself, in addition to the local treatment that has been alluded to, I have always corrected as carefully as possible the defective refraction, and done what I could to remove the constitutional condition, and, in so far as I have been able to observe them the results warranted the efforts made in that direction. To my own mind, without being able to demonstrate it, these are two factors in the causation and progress of this sort of trouble, which are tangible and for which something can be done.

DR. SMITH—So much depends on the early diagnosis of these cases that, for the benefit of the patient, something ought to be put down either in the text-books or in our teachings or discussions, to guide us in better diagnosticating simple glaucoma at an early period. It has been my experience to be taken to task by brother ophthalmologists with the remark, "Smith is wrong. This is only a case of asthenopia and not glaucoma at all." I have been in the habit of finding an uncorrected error of refraction and, if correcting does not relieve the symptoms and on more careful examination a slight degree of contraction of the field be brought out in a moderate light, I can diagnose simple glaucoma. I have found, in a number of cases, and I am glad to be substantiated by the experience of Dr. deSchweinitz, this contraction of a portion of the field almost as many times as the typical contraction, in fact it has occurred so frequently that I doubted my own diagnosis because I did not find the so-called nasal contraction. I have found it difficult to diagnose with the ophthalmoscope, the delicate saucer-shaped cupping, and in not every case does the disc become cupped to the very edge at first in this disease; very frequently there is a shallow cupping that does not reach to the edge of the optic nerve.

We often find that the tension varies, and I have found that in many of these cases it varied at different periods of the day. I have had patients examined in the morning, and I doubted the presence of any tension, and in the afternoon, on examining them again, I found a tension of +1 without any doubt.

For treatment I like deWecker's sclerotomy. For years I did a double sclerotomy, but when deWecker gave us his method I accepted it and have followed it with excellent results. I prefer it to iridectomy, for we can repeat it two or three times if we wish, and still resort to iridectomy later. Most people, particularly women, object to the deformity made by iridectomy. In the large majority of my cases I have had very satisfactory results.

DR. F. B. TIFFANY, Kansas City, Mo.—Since hypermetropia has received so much attention and has been so widely corrected during the last few years, we do not have acute glaucoma so frequently as before. When I first began the practice of ophthalmology, over twenty years ago, I often had cases of acute glaucoma; now I very rarely have them, and I believe the reason is that hypermetropia was responsible for this disease to a very large extent.

The treatment that has given me the most satisfaction in chronic glaucoma is the use of dry heat. I use electric heat, applying it uniformly by means of the rheostat. I also administer suprarenal capsule, exsanguinating the eyeball and treat locally with eserin or pilocarpin. I can, as a rule, stop the pain, check the disease and oftentimes restore some vision.

WHY THE NEGRO DOES NOT SUFFER FROM TRACHOMA.*

BY WARWICK M. COWGILL, PH.B., M.D.

Member of the Paducah Medical and Surgical Society; Member of the Southwestern Kentucky Medical Association; Member of the AMERICAN MEDICAL ASSOCIATION; Oculist and Aurist to the I. C. R. R. Hospital System.

PADUCAH, KY.

It is a coincident observation among oculists practicing in our southern states, where the larger proportion of our negro population lives, and where trachoma is a very prevalent disease, that the negro, except very rarely, is not affected with trachoma. Why the negro does not have it has been largely theorized on. Probably the explanation most largely entertained is that he is immune to this disease, that the conjunctiva of the negro does not present a soil suitable for the development of trachoma. To my mind this theory is untenable. The reasoning is loose and not based on facts to guarantee a correct conclusion. There is a rational, plain, scientific and simple explanation for the fact that negroes do not suffer from this disease, an explanation that does not call for some unique quality of construction in the negro; an explanation based on a line of reasoning, concurrent with that used in the development of facts in connection with other diseases, viz.: trachoma is a contagious disease, and the negro escapes it because he does not come in contact with the contagium.

The question as to whether trachoma is a contagious disease or not is one that, I know, is in dispute. Either side can boast of able supporters. Several have announced to the world, that they have discovered the germ of trachoma, but none have presented such conclusive proofs that their findings have been accepted by the profession. From my clinical experience I believe that it is contagious in the same way as gonorrhea and syphilis are contagious, and I will assume, for the sake of my argument, that such is the fact, and on this base my reasonings in support of my second proposition, that the negro does not have trachoma because he does not come in contact with the contagium.

I draw my conclusion from the study of this disease as it occurs among the people of western Kentucky, southern Illinois and a portion of western Tennessee, from which sections my patients usually come. Paducah, a place of 25,000 inhabitants, is the only city, and the center of this district. The remaining portion, including the smaller towns, hamlets and villages, I include with the rural districts.

In Paducah, with a negro population of probably one-fifth, trachoma is not often seen. In the surrounding country, where the negro population is one in eight

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

or one in ten, trachoma is very prevalent. In fifteen years of practice I have seen no case occurring in a negro. Nor do I find this disease among the well-to-do class of whites. But it is extremely common among the poorer class of whites in the country districts.

With these facts before us, if we look into the social relations and customs of the people, I think we can see a solution to our problem. It is a well-known fact that the negro in our southern states comes in contact with only the upper and well-to-do class of whites, in the position of servants. And as trachoma is but rarely seen among the upper class of whites, the negro has but little chance to come in contact with the germ from this source.

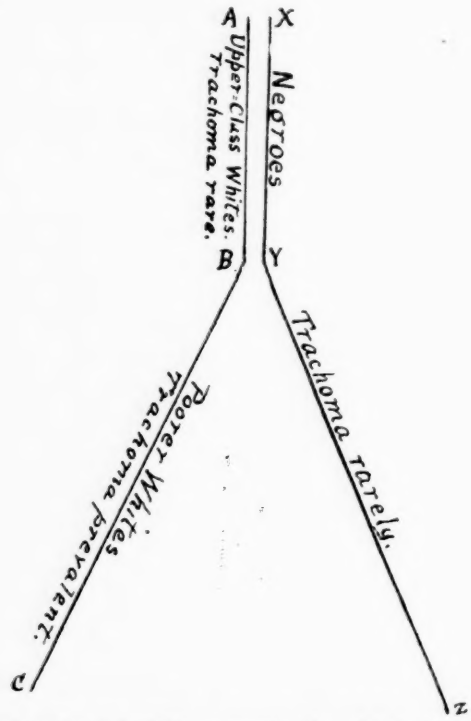


DIAGRAM.—The line ABC represents the whites; the line AB, well-to-do class of whites, among whom there is but little trachoma; the line BC, poorer class of whites, among whom trachoma is very prevalent; the line XYZ represents negroes. From X to Y the line runs parallel with the line AB, representing the approach of the negro to the well-to-do class of whites, but there is no immediate contact. The line Y to Z shows the constant divergence of the negro and the poorer class of whites, between whom there is absolutely no contact.

It is also a well-known fact that between the negro and the poorer class of whites there is a wide gulf fixed. They do not come in immediate contact with each other at all. This fact bars the negro from contracting the disease from this most prolific source. With the lower class of whites there is a custom of having one towel, which is used in common by all the members of the family, and also by the neighbors that visit them. The one towel used in common is the medium of conveyance of the trachoma germ from one to the other.

Burnett, in his article on trachoma, in the "System of Diseases of the Eye," by Norris & Oliver, mentions the fact that among the laborers on a railroad in east Tennessee, where Irish and negroes worked under the same hygienic surroundings, the Irish were much afflicted with trachoma, while the negroes were entirely free from this disease. I venture to assert that there was no immediate contact, in this instance, between the Irish and the negroes. I feel safe in saying that the negroes did not use the Irishmen's towel.

Statistics would show that but an extremely small percentage of virtuous maidens have gonorrhea, because they do not come in contact with the contagium of this disease. The people of Ohio do not suffer from yellow fever. Not because they are immune to this disease, for the cases in Gallipolis, in 1878, proved the contrary, but simply because they do not come in contact with the germs of yellow fever. The Hawaiians did not have syphilis until it was introduced among them by immediate contact with foreigners. I think the same line of reasoning holds good in regard to the negro and trachoma.

In order to transmit trachoma from one eye to another, the secretions from the diseased eye must be conveyed directly, while viable, to the unaffected eye. This conveyance could not be carried out more perfectly, when done in an unintentional way, than by the use of one towel in common by those who are affected with trachoma and those that are not so affected. We find, where trachoma is prevalent, the use of a towel in common is the prevailing practice.

The negro in this country, as a slave, or now as a freedman, has never in the past, nor does he now, come in immediate contact with the whites. Therefore the negro has not contracted from the whites this disease, trachoma, which can only be transmitted through immediate contact.

415 Broadway.

CONVERGENT STRABISMUS.

A CASE, OBSERVED IN THE CLINIC OF DR. LANDOLT, MEASURING 62°, AND ITS MANAGEMENT.*

BY WILLIAM B. MEANY, M.D.
LOUISVILLE, KY.

I desire to report an interesting case having a total apparent strabismus—convergent—of 62°; with a view to demonstrating *a method* for this individual case by Professor Landolt, of Paris. From my clinical notes, taken at the time (1886), I present the following: A young man, 19 years of age, applied for treatment, "for loss of vision in the right eye." Ophthalmoscopic examination revealed:

Right and left eyes, hyperopia total, 3.5 D.

Right eye, convergent strabismus apparent, 52°.

Angle K (angle between the lens of fixation and the radius of the cornea, which passes through the pupil) +10°.

Therefore we have a case with a total convergent strabismus of 52°+10°=62°, an exceptionally high degree. The field of fixation, measured with Landolt's perimeter, was:

LEFT EYE.		RIGHT EYE.	
Ext.	Int.	Int.	Ext.
32	47	47	34
INSTEAD OF NORMAL.			
47	47	47	47

It will readily be observed that the field of fixation is strongly limited to the outer side of both eyes. Binocular vision abolished, it was found impossible to provoke the union of the two stereoscopic images, or even the simultaneous vision of such with the stereoscope.

For prudential reasons, chloroform was administered, and a tenotomy of the internal and advancement of the external recti muscles was practiced in the right eye. The internal rectus muscle was found to be enlarged and exceedingly strong; the external rectus, very weak, narrowed and flattened—ribbon-like. A slight resection of the tendon was made. Atropin having been instilled,

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

both eyes were securely bandaged, antiseptic dressings of mercuric bichlorid, 1 to 5000, being used. Both eyes were kept bandaged until the removal of the thread on the fourth day. The eye operated on was again bandaged; the opposite was left free, and provided with its correcting glass, +6 D.

The fifth day after the operation the bandage was removed and a +6 D. lens provided for the right eye.

The hyperopia proved to be six diopters in each eye.

On careful examination of the eyes, a slight tendency to convergence persisted. The eyes were again examined the ninth day after the operation, and instead of a total apparent strabismus of 62°—as existed before the treatment—it was found to be one of 10° only.

With a Landolt stereoscope, furnished with a convex 12 diopters for each eye, the patient united the images when they were separated by a distance of 60 millimeters.

Stereoscopic exercises were ordered to be continued daily. After several days' use, the stereoscope, the patient having learned how to observe his optical impressions (one eye being covered by a colored glass), distinctly indicated a monocular diplopia for each eye. The two monocular images appeared to be very near each other, separated by 6 or 7 cm., when the object—a flame—is placed at a distance of five meters.

The eighteenth day after the operation, a colored glass revealed crossed diplopia, which was corrected by a prism of 4°, immediately afterward, without apparent change in the direction of the eyes, homonymous diplopia appeared; that was corrected by a prism of 10°, corresponding to a convergent squint of 5°.

Twenty-eight days after this patient was operated on, the apparent strabismus had practically disappeared; with a colored glass, though first seen in homonymous diplopia, the patient quickly united a distant flame with the two images.

The binocular vision persisted up to 14 cm., so that with hardly a month's treatment the patient obtained almost a normal amplitude of convergence.

R. C.=0 Ma. | 7 A. C.=Ma.
P. C.=7 Ma. |

The patient now unites the stereoscopic images with a distance of 73 mm., which shows the increasing strength of the diverging power, with simultaneous contraction of both external recti muscles.

A 1 to 200 solution of atropin has been dropped into the eyes daily since the operation.

The following is a record of the field of fixation:

	TEMPLE. Ext.	L. E. Int.	R. E. Int.	TEMPLE. Exti
Before operation	32	47	47	34
After operation, 9th day	35	45	45	54
After operation, 18th day	37	45	45	45
After operation, 28th day	40	43	42	40

The writer is aware that Professor Landolt has for a number of years resorted to other methods than those adopted by himself and others in the 80's[1], as will be seen by reference to his chapter on "Motor Anomalies," written by him, for Oliver's "System of Diseases of the Eyes." I thought it well, however, to report a case successfully treated in the "old way"—with a view to provoke further discussion by the members of this Section, of a subject, the problem of which has yet to be solved.

Are the functions of the muscles of the eye of a chemical nature or a mechanical one, or both? Is the solution to be had only in mathematic research?

I would like to contribute my share to the world's recognition of the vast amount of scientific work which Professor Landolt has accomplished. The visitor to Landolt's clinic will find the anteroom crowded with patients from every part of the world, anxiously awaiting their turn.

Professor Landolt has a charming personality which impresses alike all who are so fortunate as to come in contact with him. He has a hearty and honest welcome for all his medical visitors—but especially so for those from America.

The high order which characterizes his classic publication, "Refraction and Accommodation" (1886), proves his title to recognition in the highest order of scientific authorship.

1608 Fourth Avenue.

[1] Observations cliniques sur le Traitement Chirurgical du Strabismus, par le Dr. E. Landoldt.—Extrait des Archives d'Ophthalmologie, March, 1895; December, 1895; July, 1896.

MUCOCELE IN THE NEW-BORN.*

BY CLARK W. HAWLEY, M.D.
CHICAGO.

I am somewhat uncertain whether I have selected the proper term to apply to the cases I report. Of the first one there is no doubt, but to the others a more appropriate term might be suggested. Perhaps "abscess" would be quite proper, possibly "acute mucocele" might be a very happy term, though in my reading I have never run across it.

As I understand the term mucocele, it is applied to those chronic cases we so frequently see of stricture of the nasal duct, and where the tear-sac is chronically affected. Of the six cases, only the first has been chronic in character, while the other five were of very short duration, the condition being very readily relieved.

It is not my intention to give an extended account of the cases, but rather to report them briefly, along with the methods I adopted, so that they may be discussed thoroughly, and that I may go away better prepared to handle the next case that may fall under my care. When attending them, I kept no good record, for two reasons: One was because they were all but one seen at the patient's home, and the other because I at that time supposed they were of common occurrence, and that my not seeing a case either in the large clinics abroad or in this country was a mere coincidence, but when I began to read up on the subject, I found a poverty of material, many authors not mentioning and others very briefly noticing the fact that this was a condition that might occur. For that reason I regret that I did not make a more careful study of them. When I found how rare they were, the conclusion was formed that six cases in less than as many months would be sufficient excuse for presuming to take a little time here.

When my first call came, I was totally unprepared to do more than what my judgment suggested was the proper procedure. I knew nothing about the possibility or advisability of probing the nasal duct in a new-born babe, yet a painful condition confronted me, and something must be done at once. I proceeded to follow the rule of surgery: "where you find confined pus let it out." Here a question arose: Should I make a free incision or as small a one as possible? As the opening must come on a prominent portion of the face, a free incision must of necessity leave more or less of a scar. I decided to make just as small an opening as would allow emptying the sac, so I simply plunged my cataract knife into the presenting tumor and, as the cases went on, I found my

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

small fistula had another decided advantage other than leaving no scar. I found that it assisted very materially in meeting one of the indications in treatment, e. g., I could readily cover the opening and attempt to force the pus into the eye or nose. The latter must be accomplished before a cure is established.

The first case that presented itself was one in a babe nearly two weeks old. Very soon after birth, a tumor was observed over the situation of the tear-sac, which gradually increased in size and had reached such a proportion and become so painful that the family physician suggested that an oculist be called in consultation. I found a tumor of considerable size, presenting at the inner corner of the eye, very firm, and only by imagination could I detect fluctuation. The surface as yet showed none of the usual signs of an abscess, the reason probably being that as it was in a sac having normal mucous membrane as its body, that first must give way before necrosis could attack the skin. (This was the case also in the next four that came under my care before being opened.) That being the case and fluctuation hardly perceptible, the general practitioner can not be blamed for not recognizing the condition as one of abscess.

As suggested above, I plunged my cataract knife into the tumor, and a sudden and forcible rush of pus confirmed the diagnosis. By pressure, I thoroughly emptied the distended tear-sac, but made no attempt to wash it out. I then gave the nurse the following instructions: Several times a day she was to place the ball of her thumb or finger over the fistulous opening and press on the sac, the aim being to force the contents either into the nose or the eye. If the pus did not appear in either of these places, she was to empty the sac through the artificial opening. I very earnestly urged the necessity of following my directions carefully, and the reason for them and what was to be accomplished. As the child was in a very intelligent family, the instructions were faithfully carried out, and in a day or two, as soon as the swelling had subsided, we were rewarded by the pus appearing in the eye, and the fistula readily healed.

Then arose in my mind the subject of probing, as we were not successful in opening the passage into the nose. I am now of the opinion that the earlier this is done when you are fully convinced that the nasal passage remains closed, the better. In this case it was thought best to postpone the probing until the babe became more healthy, as it was of very low vitality. The discharge soon took on the characteristic mucous look of chronic mucocele, and gave so little trouble that it still remains unprobed. It has its ups and downs as a mucocele does in a grown person.

Of the next four cases there is little to report beyond the fact that a similar course was adopted in each, of making a very small opening, and of covering the fistulous opening while pressure was applied; and also in less than a week, in each the nasal canal was opened and a cure established.

The sixth patient came to my office, being referred to me by the family physician, who had made the correct diagnosis and opened up in the proper place, but made a somewhat larger incision than I should have done, making it much more difficult to meet the indications. Here he stopped, not appreciating the fact that the pus should be made to take the more natural course than out of the opening on to the cheek. I presume he expected me to probe the nasal duct, which I attempted to do without chloroform, and of course failed, as I could not even enter the puncta. I then instructed the mother how to proceed to apply pressure, which was faithfully carried out, and at the end of two weeks, the only progress to improved condition was in establishing drainage into the eye and closure of the fistula. I began to get discouraged, and very much dreaded to be forced to probe. But one day soon after, while the nurse was pressing on the rather distended sac, pus did not show in the eye as usual, but rather a gush of bloody pus was discharged through the nostril. From this time on a rapid recovery was possible.

The conclusions reached from the limited study of these cases are:

1. The disease is a rare one, and my having six cases so closely following one another is exceptional.

2. The indications are to establish drainage into the eye if it is not possible to cause flow into the nose.

3. These indications are best met by the following methods: Open the presenting tumor by a very small incision serving two purposes: one so as to easily cover the fistula to produce pressure for the purpose of establishing drainage into the proper channel; the other to avoid leaving a scar behind to annoy in the future.

4. Give an anesthetic and probe; this will not occur frequently if the above directions are carefully followed.

70 State Street.

DISCUSSION.

DR. HORACE M. STARKEY, Chicago.—Dr. Hawley seems to have had a unique experience in seeing so many cases of this unusual affection in so short a time. It is so uncommon as to have missed mention in most of the ordinary text-books. In a somewhat hasty examination of some of the older and more recent works in my own library, no reference whatever to this condition was found in the works of the following authors: Williams, McNamara, Meyer, Noyes, Norris and Oliver (text-book), Juler, Berry, Schmidt-Rimpler (Roosa), Fick and Swansey.

Solberg Wells, on the "Diseases of the Eye" (Bull), while not referring to mucocele in the new-born, says (p. 735): "It (acute dacryocystitis) sometimes occurs as a primary affection, being then generally due to exposure to cold or wet." Fuchs (Text-book of Ophthalmology, p. 521) says: "Children sometimes come into the world with a recent dacryocystitis, or they acquire one a few days after birth." DeSchweinitz (Diseases of the Eye, p. 554) says: "Disease of the lachrymal sac is rarely primary. In young infants, dacryocystitis, often double, arises without apparent cause *(Lachrymal Blenorrhea of Infants)*." Norris & Oliver (System of Diseases of the Eye, vol. iii, p. 150), say: "Primary acute dacryocystitis is said to occur occasionally in strumous children, and it may be produced by external violence or by the entrance into the sac of an irritant fluid. Cases of this character are, however, very rarely encountered."

Dr. Hawley is to be congratulated not only on seeing these cases, but on the success attending his care of them.

DR. W. H. WILDER, Chicago—My experience in this condition is very limited, but I can recall having seen two cases, one in private and one in hospital practice. I was also impressed with the scanty allusion to this subject in the literature. I was not aware that the condition was so uncommon. Where there is an abscess presenting, the proper thing to do is to open it. The two cases I had recovered very promptly.

DR. A. B. HALE, Chicago—I think Dr. Holmes would be inclined to dispense with the use of the probe and rely simply on incision, for I believe that in the case of a baby the probe can do nothing more than mutilate the parts.

DR. A. A. HUBBELL, Buffalo, N. Y.—I can recall four cases of inflammation of the lachrymal sac in infants, and in every case I have slit open the lower canaliculus, passed a probe, syringed the passage with 1 per cent. solution of silver nitrate, and have been surprised at the rapidity with which the patients recovered.

DR. BENNETT—I recall one case in which I opened the abscess and passed a No. 8 probe with a perfect cure within a week.

DR. W. L. PYLE, Philadelphia—There has recently been published an extensive article on this subject, by Valude, and as

well as I remember, he followed the treatment as given for adults, although he did not use a large probe, I believe seldom one larger than No. 2 in a child.

DR. CASSIUS D. WESTCOTT, Chicago—I saw two of these cases in the early years of my practice. I slit the canaliculus, passed a probe once, syringed the sac with boric solution, and after that simply expressed the contents of the sac until it was well. I happen to know that my old friend Dr. Holmes of Chicago has treated such cases successfully in this way, and he has seen a number of them.

DR. C. W. HAWLEY, Chicago—From my own experience I should be inclined to think that it is not necessary to use probes, and the same would apply to the cutting of the canaliculus. A cut canaliculus will always be more or less troublesome, for, in an infant I should imagine it would be almost impossible to make the typical incision of the canal.

THE MADDOX ROD OR PHOROMETER: WHICH?*

BY ALVIN A. HUBBELL, M.D., PH.D.
BUFFALO, N. Y.

The Maddox rod or suppressed-image or obscuration test in some of its forms, and the prism or diplopia test in some form of phorometer, are most commonly used in the determination of the co-ordination of the external muscles of the eyes. In this practice it is assumed that there is a functional position of rest for the eyes in binocular vision, and that in this position of rest, the lines of vision are both directed toward the point of fixation. It is not my purpose to discuss here the nature or limits of this co-ordination, the causes which disturb it, or the effects, or treatment of any disturbance of it. My only question is as to the comparative value of the diplopia test, by Stevens' phorometer.

Using Stevens' nomenclature, I assume that orthophoria is the strictly normal condition of ocular co-ordination, although I grant that there may be, within narrow limits and in relation to unusual accommodative or other forms of innervation, a condition of "physiological" heterophoria. I further assume that the object of co-ordination tests is to determine the presence or absence of orthophoria, and if absent, the amount of variation.

During the whole period of my ophthalmic practice, I have used, more or less, the diplopia test, and for several years, as the most convenient form of it, the Stevens phorometer. Since Maddox brought forward the rod test, a number of years ago, I have also used this, and have made a large number of comparisons of the results of both.

Dissociation of the images of the two eyes is the principle governing each of these tests. In the diplopia test, the dissociation is effected by changing the visual axis of one eye by means of a prism. The displacement of one image can not be done without associating with it, more or less, an impulse to some form of ocular effort. This may be very slight in some cases and considerable in others. It may affect one muscle or set of muscles in some, and another in others. Certainly, there is not a state of complete muscular rest.

In the obstruction or suppression test, no such effort is invited, no change of innervation takes place. Binocular fixation is suspended without it, and the eyes yield to the deviation tendency in accordance with the status of innervation of the acting and governing nerve-centers. If this be true, it would seem that the Maddox rod should more correctly indicate the absence or presence and amount of heterophoria.

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

COMPARATIVE REPORT OF 100 CASES, SHOWING 140 MEASUREMENTS BY THE MADDOX ROD AND STEVENS' PHOROMETER.

EXOPHORIA

Maddox Rod.		Stevens' Phorometer.							
		Same Exo.	Less Exo.		More Exo.		Lateral Ortho.	Eso.	
Degrees.	No. Cases.	Cases.	Cases.	Degrees.	Cases.	Degrees.		Cases.	
¼	1	1							
½	6	3	1	¼	1	1½	1		
¾	1				1	1			
1	11	5	4	¼ to ¾	1	1½		1	½
1½	5	1	4	½ to 1					
2	5	1	4	½ to 1					
3	1		4	1½					
3½	1		1	2½					
5	1		1	2½					
7	1		1	3					
9	1	1							
	34	12	17		3		1	1	

ESOPHORIA.

Maddox Rod.		Stevens' Phorometer.							
		Same Eso.	Less Eso.		More Eso.		Lateral Ortho.	Exo.	
Degrees.	No. Cases.	Cases.	Cases.	Degrees	Cases.	Degrees.	Cases.	Cases.	Degrees.
½	5	1					2	2	¾ to 1
1	21		9	¼ to ¾			8	4	¼ to ½
1½	1		1	1					
2	11		6	¼ to 1			5		
2½	1	1							
3	6	1	4	½ to 1			1	¾	
4	6	1	5	1 to 2½					
6	1		1	2					
9	1		1	1½					
	53	4	27		0		15	7	

RIGHT HYPERPHORIA.

Maddox Rod.		Stevens' Phorometer.							
		Same R. H.	Less R. H.		More R. H.		Vertical Ortho.	Left Hyp.	
Degrees.	No. Cases.	Cases.	Cases.	Degrees.	Cases.	Degrees.	Cases.	Cases.	Degrees.
¼	5	1					2	2	¼
½	2				1	2½	1		
1	1						1		
2¼	1		1	1					
	9	1	1	1	1		4	2	

LEFT HYPERPHORIA.

Maddox Rod.		Stevens' Phorometer							
		Same L. H.	Less L. H.		More L. H.		Vertical Ortho.	R. Hyp.	
Degrees.	No. Cases.	Cases.	Case.	Degrees.	Cases.	Degrees.	Cases.	Cases.	Degrees.
¼	12	7			1	½	4		
½	14	5	3	¼	3	¾ to 1½	3		
¾	1						1		
1	4	1	3	½ to ¾					
2	2		2	½ to 1					
	33	13	8		4		8		

ORTHOPHORIA.

MADDOX ROD.	STEVENS' PHOROMETER.								
	Ortho.	Eso.		Exo.		Right Hyp.		Left Hyp.	
Cases.	Cases.	Cases.	Deg.	Cases.	Deg.	Cases.	Deg.	Cases.	Deg.
11	6	. .	. .	2	½	1	½	2	½

DEGREES SHOWN: TOTALS.

	Eso.	Exo.	Rt. Hyp.	Left Hyp.
Stevens' Phorometer	39¾	44¾	4¾	20¼
Maddox Rod	116	59½	5¼	18¾

Again, if it be contended that there is no extraneous muscular effort in the diplopia test, then, in the absence of such effort in either method, the one which, in general, shows the greater amount of heterophoria must be the most correct. Dr. Stevens and others hold that the Maddox rod does not reveal the full amount of heterophoria because of the tendency to fuse the images of the two eyes. In this case it would generally show less heterophoria than the phorometer, but the contrary has been my experience.

As an illustration of my experience, I will give the results of my measurements in 100 persons, taken consecutively as they came to my office, irrespective of conditions of general health or refraction, and without glasses. In this series I omitted cases in which vision was less than 5/12 in either eye. The comparative tests were made at the same sitting, and at a distance of 5 meters, using a gas-flame about the size of that of a common candle.

In some of them, as will be inferred, the heterophoria was mixed, so to speak; that is, there was right or left hyperphoria with esophoria or exophoria.

In 53 cases in which the Maddox rod showed esophoria. Stevens' phorometer gave an esophoria of the same degree in 4, less esophoria and lateral orthophoria in 32, exophoria in 7, and more esophoria in none. In 34 cases in which there was exophoria by the rod, by the phorometer there was the same exophoria in 12, less and lateral orthophoria in 18, esophoria in 1, and more exophoria in 3. In 9 cases of right hyperphoria by the rod, the phorometer showed the same in 1, less and vertical orthophoria in 5, left hyperphoria in 2, and more right hyperphoria in 1. In 33 cases of left hyperphoria by the Maddox rod, the phorometer showed the same in 13, less and vertical orthophoria in 16, right hyperophoria in none, and more left hyperphoria in 4. In 11 orthophoric cases by the rod, the phorometer gave orthophoria in 6, exophoria in 2, right hyperphoria in 1, and left hyperphoria in 2.

Thus it will be seen that in the 140 measurements the two tests gave the same results in 36. In the heterophoric cases there was less heterophoria or, what was the same in effect, lateral and vertical orthophoria, by the phorometer than by the rod in 71, and in 8 there was more. The opposite form of heterophoria was shown in 10, while in 7 of the orthophoric cases by the rod, there were exophoria and right and left hyperphoria by the phorometer. In view of the fact that by the rod test there is introduced, absolutely, no extraneous impulse to muscular contraction, and as its findings are in the large majority of cases equal to, or in excess of, those of the phorometer, I am forced to believe that, in connection with other contributory muscular tests, it is a more precise and trustworthy guide in daily practice than the phorometer.

The foregoing table shows more fully the comparative results of the 100 cases above referred to.

DISCUSSION.

DR. A. G. BLINCOE, Bardstown, Ky.—Dr. Hubbell's conclusions are in the main correct. In my refraction work I have generally used the Stevens phorometer because I have considered it the simplest and most convenient method. I often find more difficulty in using the rod test. I have noticed, however, that after using the phorometer a number of times in the same case, there will sometimes be an appearance of orthophoria with it when the rod test will still show some heterophoria. It would thus appear that the rod test is the more accurate of the two, but if in these cases the rod test had been used first, it might be that the phorometer would show want of equilibrium after orthophoria had been reached with the rod test, as the patient may soon learn to exercise some effort in fusing dissimilar as well as displaced images. We will all probably agree that it is generally better to use several tests and vary them occasionally or frequently.

In diagnosing and treating muscle errors we always have to supplement these methods by the duction tests. In testing the adduction in a case recently, I found that with a prism base out before the right eye, the patient fused 25 degrees, while with the prism base before the left eye, he only fused 15 degrees. With the Stevens phorometer he showed 5 to 7 degrees of exophoria in one eye and orthophoria in the other, the exophoria appearing sometimes in one eye and sometimes in the other. With the Maddox rod before the right eye he had 2 degrees of exophoria, and before the left, 1.5 degrees. His abduction was about 15 degrees in each eye. It was a question with me to which eye the weak internal muscle belonged. The tropometer in experienced hands would probably have decided the matter.

By putting a red glass before the left eye while testing the adduction with a prism before the right in this case, the patient said the red image seemed to move toward and fuse with the other, and the same thing occurred in making the abduction tests.

In making some tests in my own person soon afterward, sitting twenty feet from a candle flame, before a dark background with a prism before one eye and a red glass before the other, I found the results both for abduction and adduction, in either eye, were the same. So it would appear from these tests that in making the right and left lateral duction tests, when a prism is held base in or out before the eye, we are testing the strength of the muscle of the other eye.

In another case of esophoria since then, the white light moved to the red with the weaker prisms, but when approaching near to the strongest fusing point, the red light seemed to move to the other one.

As these are points about which there is probably not a perfect unanimity of opinion in the profession, I should like very much to hear the views of any members present who have settled convictions in regard to them, and especially from any one experienced in the use of the tropometer in such cases.

DR. W. L. PYLE, Philadelphia—When I first started to practice ophthalmology I used the Maddox rod. Later, I bought an optometer, which is really a Stevens phorometer, with two adjustable Risley prisms for duction measures, and on this I had the instrument-maker place a rotary Maddox rod. I made a number of tests with both phorometer and rod during a period of four months, and I concluded that the rod showed from 1 to 3 degrees of esophoria when the phorometer measured orthophoria. I feel perfectly satisfied with the use of the phorometer now, because I believe the finding of the Maddox rod will always tend from 1 to 3 degrees toward the esophoric side, from the finding of the phorometer.

DR. LUCIEN HOWE, Buffalo, N. Y.—This subject lies rather near to my heart, and if you ask which of the two methods we shall trust implicitly I should say neither; that neither of these instruments will give the same readings in tests made at different times is due to the unconscious muscular effort that is made; this is usually accompanied by contraction of the pupil, and may be demonstrated by watching the constant action of the pupil as shown by the horizontal microscope.

DR. G. C. SAVAGE, Nashville, Tenn.—There is a reason for everything, whether we know that reason or not. It seems to me very clear that there is a field of binocular fixation, and if any part of the image falls on that field while making the muscle test there must necessarily be an error. The Maddox rod has come to stay, and it is going to do good service, but it will be especially in measuring the oblique muscles. So far as the older phorometers are concerned, the Stevens and the Wilson—and the latter is the better—neither one is built on the right principle. To do the work properly we should have a monocular phorometer, and I shall demonstrate one at the close of this meeting. I think I can show that it is more accurate than any phorometer heretofore.

DR. H. V. WÜRDEMANN, Milwaukee, Wis.—I noticed in the series of cases given by Dr. Hubbell, that these eyes were all measured *without* the ametropia being corrected. In my opinion it is essential to correct this and make the eye emmetropic before an accurate estimate of the balance of the ocular muscles can be obtained, for the unreliability of our tests lies largely in the point brought out by Dr. Howe, the unconscious accommodation and convergence.

DR. C. E. NORTON, Lewiston, Me.—I have found one great difficulty with the Stevens phorometer, which was to make the patient comprehend the situation and estimate the relative height of the two lights. After using it for some time I became convinced that it was not an accurate instrument, for the results obtained with it vary from time to time, to a considerable extent. I afterward combined a Maddox rod with a series of prisms, and found this a much more satisfactory instrument. Later I invented a more convenient instrument, consisting of a Maddox rod and a prism mobile; instruments essentially identical were invented by two ophthalmologists and were placed on the market before I got mine done. I therefore purchased one of each kind and have used them for many years, and have found them much more satisfactory than the Stevens instrument.

DR. A. A. HUBBELL, Buffalo, N. Y.—I agree almost entirely with what Dr. Würdemann and Dr. Howe have said, with the exception of their reference to accommodation. I have not been able to make up my mind that the patient accommodated more in the rod test than in the diplopia test. My purpose has been simply to make a comparison between the Maddox rod and the phorometer, as to their immediate results, without any reference to treatment. Whether the eye was emmetropic or not, the conditions were the same during both examinations. I shall be very glad to hear more about Dr. Savage's phorometer.

TREATMENT OF SEPTIC CONDITIONS IN CHILDREN.*

BY EDWIN ROSENTHAL, M.D.

PHILADELPHIA.

The presence of streptococcus pyogenes as a complication or sequel to many of the diseases of infancy or childhood exerts an influence on the course, duration or character of the disease so far as to give rise to new symptoms, utterly at variance with the initial malady, and significant of a dangerous, if not a fatal, result. As an independent affection the streptococci or the staphylococci are found so very frequently that they have given distinctive diseases.

Under the name "septicemia" is presented that complex disease which has for its origin the entrance of either of these microbes into the circulation, and by it is understood a poisoned blood. The term was originally employed by Koch for a condition of microbic blood infection, in which the microbes multiply in the blood, and cause a rapidly fatal disease. The true name of this infection might be termed "strepto-infection" or "strepto-septicemia," or in the language of the bacteriologist, "streptomycosis." Whether the disease be a primary one, or whether it be a complication of, or a sequel to, another disease, this fact always remains: the strepto-infection is at first essentially a local disease; it is later that it becomes a blood infection.

The knowledge of its origin, thus shown, exerts an influence on the treatment, and it makes little difference whether the septic condition be a disease primarily, or a grave complication. The chief and certain rule is prophylaxis.

As a primary disease we may meet with septicemia in the new-born as well as in the older children, and as it is an infectious disease all the rules that govern such affections must be implied.

As the medical treatment, by which I mean the modern methods of combating sepsis, depends essentially on a true knowledge of the cause, it is necessary to make the diagnosis early and with the assistance of one who can make a bacteriologic test. As, however, it is not in the power of all to obtain a bacteriologic diagnosis, I will briefly summarize the clinical varieties of septic diseases that may be termed primary, whilst the same manifestations may hold good as a secondary sequel of the various infectious conditions.

The most frequent cases met with are in the new-born, and we meet them as follows:

Omphalitis: inflammation of the umbilicus, and cellulitis of the abdominal wall in the immediate neighborhood.

Inflammation of the umbilical vessels: in this condition, peritonitis, suppuration of the joints, erysipelas, multiple abscesses of the cellular tissue, sometimes suppurative parotitis, and atelectasis are common; pneumonia is also a common complication.

Peritonitis: this is the most frequent pathologic processes in pyemic conditions, and is often the cause of death.

Pneumonia: the most common form is the pleuropneumonia.

Pericarditis: rare and usually associated with pleurisy.

Endocarditis: this is very rare; Hirst reported a case.

Parotitis: I have seen this in an infant 4 days old; the mother was also so affected.

Meningitis: this is suggestive of injury during parturition.

Gastro-enteritis.

Pseudomembranous inflammation of the throat: this is not so rare, as instances have been reported by many; I have seen three cases, and in two I have seen membranous inflammation following on the operation of circumcision; in children 9 and 10 days old.

Osteomyelitis: when the septic condition has existed for some time, this may occur.

Joint suppuration: this is the same as in older people.

Abscess in the cellular tissue: this is the most frequently met with, and generally ends favorably.

Erysipelas: this, the cause of cellular abscesses, is met with in almost all cases of septic infection; not alone found in the umbilicus and neighboring tissues, but independently elsewhere, notably on the genitalia, simulating to a great extent syphilis congenitalis, and causing, in many instances, death by the swollen tissues pressing on the urethra and mechanically preventing urination, resulting in uremia and death. In the male I have seen circumcision a necessity, whilst in the female I have seen death resulting from the urinary infiltration following ulcerative action.

Septicemia as a secondary disease is most frequently

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

found as a complication in diphtheria and scarlet fever, whilst no infectious disease can be said to be exempt. Whether the sepsis be a primary or secondary disease, the following treatment may be said to give promise of better results than any heretofore pursued.

We may divide the treatment into local and constitutional, and we may add that the earlier in the case it is begun, the more certain the result.

Local Treatment.—This is generally following the rules prescribed under the principles of surgery. Pus, when found, must be at once removed. Asepsis in the first place, and antisepsis later, is the only safe and certain rule to follow. After this, whatever the indications be, they should be treated. For a beginning cellulitis use lead water and laudanum; in further advanced states, an antiseptic poultice. For erysipelatous inflammation I have always found a 30 per cent. ichthyol ointment, with lanolin and cosmolin as a vehicle, and oil of gaultheria, in the following proportions, to be good.

R.	Ichthyol	10
	Lanolin	15
	Cosmolin	5
	Ol. gaultheria	1

Misce et Signe. Apply locally.

For other manifestations of the disease, such local applications as are most desirable, or which are more familiar to the physician—as the wet-pack for the pneumonia, etc.—should be used.

Constitutional Treatment.—This is the early and free use of the antistreptococcic serum. The same rules as are given for the use of the diphtheria antitoxin hold good with this serum. The manner of its use is similar. The quantity chosen for the case is injected hypodermically. The method is as follows: The side of the loins or chest is cleansed with alcohol soaked on corrosive cotton or gauze, and after the injection the aperture made by the needle is hermetically sealed with iodoform-collodion. The method of its use is different from the antitoxin. Where in the antitoxin the minimum quantity is first injected, followed by proportionately increasing doses, in the antistreptococcic serum a large initial dose is first injected, followed by the same dose or a lesser amount. The time to give the injection is also different. In the antitoxin any time will be the same. In the serum; early in the day, or when the temperature begins to rise, has been the time found best. As in antitoxin, so with the antistreptococcic serum; any quantity can be administered, as it has been found wholly free from any dangerous consequences. The quantity given as a commencing dose is 10 c.c. This I have given to an infant suffering from erysipelas, and this dose I have repeated in the same infant—aged 7 months—three times, and now record a cure. Larger quantities than this have been recorded, and in one case of septic pneumonia—the streptococcus having been found in the sputum—35 c.c. has been administered, with a record of recovery. The temperature should be the guide for the repetition of the dose.

If after an injection, the fever should recur, whether it be on the same day, or one, two or three days following, the serum should be given, and always at the time when the fever begins to rise. There is no reaction from its use, and if the action be favorable, there will be a decline in the temperature and pulse-rate, and they will remain at normal. This decline may be quite rapid, or it may only follow after a second or third injection, but most generally—if the remedy be used early enough—the normal temperature is reached on the third day.

The cases most suitable to the use of the serum are those which are primarily streptococcic, and in those uncomplicated and before there be destruction of tissue. When clinical evidence of infection exists, and the bacteriologic examination proves the cause, the serum should be used at once, for then it will not only cure the beginning disease, but will prevent any sequel, as suppuration and the like. Where the infection is a complication to another disease, as scarlet fever or diphtheria, the serum is indicated, and its use does not forbid the proper collateral treatment, which is always in order. In puerperal cases, the efficacy of the serum is most marked. As here we have early clinical evidences of this specific infection, we can more promptly apply the remedy, even before the bacteriologic tests. Therefore, in these cases I should advise the early and free use of the serum, being certain, by experience, of its favorable results. Preventive medicine, however, is the rule, and our means should be directed to prevent the disease, and also for this purpose as an immunizing agent, this serum is indicated, and its action has frequently been proved by its use in surgical operation, an immunizing dose of 5 c.c. being injected previous to the operation, with the most gratifying results. Especially has this been proved in operations on the throat, tongue or mouth, so that in those diseases of infancy which have their site in the throat or mouth, such as post-pharyngeal abscesses or the like, the diagnosis of which is so well understood, I have often given the serum with most gratifying results. Concluding, I would advise its use in all suspected cases of septic infection, and as it is so harmless, I would use it as an immunizing agent in those cases, the sequel of which may possibly be a septicemia.

DISCUSSION.

DR. DILLON BROWN, New York City—I am surprised to find that Dr. Rosenthal has such confidence in antistreptococcus serum. It does not seem to be possible that an antitoxic serum can be of benefit in this class of patients, for there is present in these cases not only a toxic poisoning due to the streptococci, but the streptococci themselves are in the blood. Under such conditions it seems to me impossible to cure streptococcus infection by antitoxins made according to the present theory of serum therapy.

DR. G. M BLECH, Chicago—With reference to antistreptococcus serum made by Parke, Davis & Co., with one exception I have seen very favorable results from it, and it has been my sheet-anchor in the treatment of streptococcus infection. Reliable authorities have reported many cases which would have apparently proved fatal without the treatment, and in which the temperature rapidly sunk after the first injection, and reached normal after the second one. That this sudden fall does occasionally take place in cases of streptococcus infection can not be denied, but it does not materially affect the argument. Where death follows in spite of the injection, I believe the infection is a mixed one, and that the staphylococci and other bacteria are to be held responsible for the fatal ending.

DR. ROSA ENGELMANN, Chicago—As to the efficiency of streptococcus serum, I can not speak personally from a large experience, but it has seemed to be useful in a few instances. From the literature of the subject, I infer that its therapeutic value is questionable by reason of the great variety of the streptococci. It is not probable that the serum obtained from the streptococcus of pus will prove useful in all cases. The necessity of using immunizing doses of the serum seems to be rather a reflection on the surgeon. In reply to another gentleman I would say that in diphtheria we do not find the bacilli in the blood, but simply the toxins, whereas in streptococcus infection the streptococci themselves are in the blood.

DR. A. C. COTTON, Chicago—For a century we have been practicing medicine along lines we can not demonstrate, and now, just as the time arrived when we could demonstrate, by *a priori* reasoning, the theory on which we administer a rem-

dy, the profession rose up and demanded the most explicit demonstration ever called for or thought of. Had we yielded to that, diphtheria antitoxin would have been choked off in its inception. You remember the experiment with Koch's tuberculin. Fortunately we had a little patience, so that finally many of us were convinced, in spite of our prejudices, and against our will, that the most powerful therapeutic agent ever introduced for the prevention and cure of disease had been placed at our disposal, i. e., the antitoxin of diphtheria. Now, let us have a little patience until it has been demonstrated that absolute harm comes from the injection of the antistreptococcus serum. I believe it is the duty of every physician, in the present status of our knowledge, to use this serum in every case that seems appropriate, and we should not be held strictly to account if we can not demonstrate the utility of each dose. There are records accumulating all over the world which show that the tendency is toward the use of antitoxin treatment in streptococcus septicemia. If the epidemic that we have just passed through in Chicago is resumed, I expect to use twice as much of the serum as I did last winter.

DR. E. ROSENTHAL, Philadelphia—The remarks of Dr. Dillon Brown are true in certain respects. In some cases of streptococcus infection, I have seen the cocci in the blood, and in the pus from the wounds, yet after three or four months the patients have recovered under the use of the serum. What influence the serum has, if any, may be questioned. In such cases as described by Dr. Brown, the serum can do us little good; but, there is no contraindication to its use. And whilst the objections are well known to us, they are the same as with the diphtheria antitoxin. With the antitoxin, we have been taught, its use on the fifth day is valueless, because the blood is already poisoned, and this does not cure the results but prevents them. In a case of a well-known obstetrician of Philadelphia, the serum was used, when the cocci were found in the blood, and too late to be of much avail. There are three kinds of serum in the market: one made by Marmorek, one by Professor Biggs of the New York Board of Health, and one by Parke Davis & Co. Most of my successful work was done with the latter. A great deal depends on the kind of remedy used. If we use a serum of proper quality, we will get good results, but if we use any kind of serum, we will soon find ourselves rejecting all kinds of serum.

With 10 c.c. of the third make of serum in cases of puerperal septicemia, or in septicemia of children—as erysipelas—you will get an amelioration of the symptoms, and an early cure. After the symptoms lessen, you may employ the usual remedies to restore health. Surgical cases were the first recorded, both as to curative uses and as immunizing agents. Operations on the tongue and mouth were almost invariably followed by septic pneumonia, but where the immunizing doses were used, pneumonia was wholly unknown after such operations. I think Dr. Cotton speaks truly and to the point, regarding serum therapy.

EOSINOPHILIA IN DERMATITIS HERPETIFORMIS (DUHRING).*

BY MARK A. BROWN, M.D.

Hematologist to the Cincinnati and Laura Memorial College Hospitals.

AND

GEORGE P. DALE.

Interne to the Cincinnati Hospital.

CINCINNATI, OHIO.

Of late years the study of the morbid changes in the blood has become a most important aid to diagnosis in many varieties of disease. Leaving out such diseases as leucemia, pernicious anemia and chlorosis, the recognition of which depends absolutely on the blood examination, medicine has been aided in malaria by the finding of the plasmodium of Laveran, in typhoid and some other acute infections by the agglutinative or "clump" reaction, in surgery in appendicitis and other suppurative affections by a pronounced leucocytosis; in gynecology, where some doubt might exist as to the exact location of a tumor, certain states of the blood would point toward the ovary as the seat of the trouble, while again the hematologic examination might lend some aid in determining its malignancy or non-malignancy. Indeed, there is no branch of medicine in which the examination of the blood might not at some time be of service. Of the many ways of examining the blood, one of the most important is the differential count of the leucocytes. Normally they exist in the following relative proportions (Cabot):

Small lymphocytes	20 to 30 per cent.
Large lymphocytes	4 to 8 per cent.
Neutrophiles	62 to 70 per cent.
Eosinophiles	.5 to 4 per cent.
"Mast cells"	.025 to .5 per cent.

Not unnaturally it was thought that any great variation from the normal, as tabulated above, might, if constant, lend some aid in diagnosis at least, and an immense amount of work has been done in this line in preparing tables referable to various diseases. With the progress of time, work has gradually centered about the old cells, or eosinophiles, as they are called. This has probably been greatly due to the fact that they are normally in such small numbers that any marked increase would quickly attract attention, as they are, when stained, among the most striking of microscopic blood pictures. The eosinophilic cell is as a rule quite large, and contains a polymorphous nucleus; its chief characteristics, however, are the remarkable affinity with which its granules take an acid stain, especially eosin, and the looseness with which these granules and their nucleus are connected. An increase in the number of these cells, or eosinophilia, as it is termed, occurs in a considerable number of affections, as described by Neusser: disease of bone, as osteosarcoma; certain diseases of the skin, as pemphigus and the disease under consideration; some affections of the female organs of generation, particularly the ovaries; and in disturbances of the sympathetic system, rather a heterogeneous group. The percentage of eosinophilia is as a rule not high, probably the most pronounced being in active cases of trichinosis reported by Osler, Atkinson, Brown and others, where 50 per cent. was not uncommon and, indeed, led in several instances to examination of pieces of excised muscle during life and the demonstration of the trichinæ. In diseases of the skin, very little of this work has been performed, though the writers have seen slight eosinophilia in pemphigus, so that the following case of dermatitis herpetiformis (Duhring) from the service of Dr. A. Ravogli, dermatologist to the Cincinnati Hospital, may prove of interest:

A. I., aged 50, a native of Switzerland and a laborer, entered the house June 6, 1899. This was his fifth entrance for this affection during the last three years. He has lived in America for 28 years. There is no history of ordinary diseases of childhood. He has not used alcohol for the last twelve years, and denies venereals absolutely. He had eaten raw meats considerably before coming to this country, and also to some extent here, but not at all during the past two years. He eats pork but rarely. He has had the present skin disease for the last twenty-seven years, always vesicular, sometimes bullous, sometimes pustular, always on the hands, sometimes on the feet, over the scapulæ, and on the inner aspects of the thighs. The attacks always come on with considerable itching. The disease was almost continuous for a number of years, but more recently there have been longer or shorter ones. The skin of the palms and

*Read before the Society of Original Research, Cincinnati, Ohio, Oct 12, 1899.

dorsal surfaces shows vesicular eruption, the vesicles being of various sizes, from a small pea to a dime. Some have clear contents, others purulent. Some are surrounded by inflammatory areolæ, and in some areas desquamation is taking place. Scratch marks are very noticeable. The feet show a similar condition. During his prolonged stays in the house almost everything in the way of treatment has been tried; at the best with only temporary relief.

BLOOD RECORD—JUNE 12, 1899.

Reds	5,128,000
Whites	14,000

DIFFERENTIAL COUNT—JUNE 12, 1899.

Eosinophiles	29.2 per cent.
Neutrophiles	32.8 per cent.
Small lymphocytes	32.8 per cent.
Large lymphocytes	5.2 per cent.

DIFFERENTIAL COUNT—JUNE 17, 1899.

Eosinophiles	44.3 per cent.
Neutrophiles	31.3 per cent.
Small lymphocytes	20.3 per cent.
Large lymphocytes	4.1 per cent.

DIFFERENTIAL COUNT—JUNE 25, 1899.

Eosinophiles	36.25 per cent.
Neutrophiles	29.25 per cent.
Small lymphocytes	32. 5 per cent.
Large lymphocytes	2 per cent.

JUNE 30, 1899.

Reds	5,163,000
Whites	9,000

DIFFERENTIAL COUNT.

Eosinophiles	39.25 per cent.
Neutrophiles	39.25 per cent.
Small lymphocytes	19 per cent.
Large lymphocytes	2. 5 per cent.

A few days after this the patient left the house and did not re-enter until early in September. He had asked for his discharge on account of his great improvement, and applied for readmission on account of the onset of a fresh attack.

SEPTEMBER 5, 1899.

Reds	5,808,000
Whites	9,700

DIFFERENTIAL COUNT.

Eosinophiles	29.3 per cent.
Neutrophiles	36 per cent.
Small lymphocytes	31.3 per cent.
Large lymphocytes	3.4 per cent.

In all these counts the so-called transitional forms have been classified with either the small or the large lymphocytes, depending on the size of the cell and the size and staining activity of its nucleus. The September count has shown but one marked difference from the observations of June: while in June the eosinophiles were very small, with their granules closely packed together and the nucleus somewhat deeply stained, those of the last observation are normal in size and in the distribution of their granules, many indeed being apparently broken down, with the granules widely separated from the cell and nucleus. Looking on the small compact cells as "young" eosinophilia, and taking into consideration the fact that the patient was improving greatly in June, we would advance the theory that the improvement of the dermatologic condition was accompanied by strenuous attempts at regeneration of the blood. Bearing in mind the trichinæ eosinophilia, a piece of muscle was excised from the gluteal mass and carefully examined for this parasite, after hardening, but no evidences of its present or former residence could be found. So far as we have been able to find, but one other similar case is on record, that of Cabot[1], and his eosinophilia is not nearly so great as in our own case. It is as follows:

Eosinophiles	19 per cent.
Neutrophiles	47 per cent.
Small lymphocytes	25 per cent.
Large lymphocytes	8 per cent.
Myelocytes	1 per cent.

While we do not claim that this one case, even when taken in conjunction with that of Cabot, is conclusive in any way as regards the possible blood changes of dermatitis herpetiformis, we have wished to place the case on record that similar investigations may be made by others and, if possible, a definite working basis be established.

[1] Cabot: Clinical Examination of the Blood, 2d edition.

HAVE WE IN NATURE A BASIS FOR A SCIENCE AND ART IN MEDICINE.*

BY H. J. HERRICK, M.D.

CLEVELAND, OHIO.

Inasmuch as medicine has to do with natural forces, and as natural forces are uniform and according to law, the inquiry has often come to mind, have we a basis for a science in medicine? Other sciences, as physics, chemistry, astronomy, navigation, etc., have come to their present position through long years of struggle and search. Now they present themselves before the tribunal of public opinion, and find universal acceptance. No one would for a moment question the validity of the principles on which they rest; no schisms exist among their followers.

It is the purpose of this paper to show that the conditions with which the physician deals have such uniformity of phenomena and facts that the subject may be properly termed a science, and that such conclusions may be reached, and practical results attained, as to be unquestioned by any intelligent inquirer, and that when those principles are applied to practical use for the curing of disease, it may appropriately be styled an art. Hence the terms "science" and "art" of medicine are properly applied to these studies, so that when the principles are fully accepted, all will be guided by them.

In former years the curriculum of a medical course was styled the science and art of medicine. Have we grown beyond this division, or not reached it yet? It is an accepted fact that these questions pertain, first and all the time, to the conduct of a vital force, the nature of which is beyond our knowledge. Yet the laws by which it acts and the uniformity of its results are such as to establish the basis of our claim, corresponding with other kindred sciences as before stated. I am aware that in these reflections I present nothing new, or bring forward no new laws; I only attempt to so present the facts already established as to afford hope for more scientific and classified arrangement of the principles involved. A science is man-made. It is formed from a knowledge of the laws of the phenomena of Nature. It grows and grows, slowly, as the range of knowledge is extended. It grows not by the study and search of one, but of many. It is the agreement of repeated testimony that interprets phenomena and establishes principles. Therefore the subject of medicine takes in a wide range of knowledge, and includes principles from all the natural sciences. All sciences may be called on to pay tribute to the science of medicine. It is the most composite of all. Its origin dates from the earliest of the world's records. It gathers in its march every available principle, and any material that contributes to the maintenance of living tissues in their normal way. Hence Nature makes no special provision for either forming or repairing the different parts of the body. She has her type for every tissue and in her beneficent design seeks to

maintain the type of every organ and part, as also the whole organism.

The question raised is: Have we in Nature a foundation for the science of medicine? This question does not find an affirmative answer among all. Even many of the most learned, in other and kindred sciences, look on the practice of medicine as one of empiricism, having no established principles on which the art rests.

To further develop this question, we say that a science must rest on principles or laws of Nature, which all recognize as established. Have we such laws directing the forces of life, that the science of medicine can rest on them? If so, what are they? No one to-day doubts this, as observed in the facts of anatomy. Every species of living being in its anatomic structure presents uniformity. The geologic processes also, which are but the forces now acting, are equally uniform. The scientist observes that all matter exists under law; that all vital phenomena are the resultant of a force which acts according to law, always uniform where the conditions are uniform. The laws of life are present, and have been from the very earliest dawn of creative power. Hence Pope uttered the accepted scientific truth, when he said:

> The Almighty cause
> Works not by special, but by general laws.

It is the province of the scientist to observe the facts of phenomena, and detect the laws which govern them, which laws become the corner-stone of the science.

Physiologic science, together with histology, sees the cell as the prime spark in which all life starts. It is endowed with the life principle of all biotic changes, as the atom is endowed with the force and law of all physical changes, as observed in the science of chemistry. The science of medicine becomes intelligent, when it interprets physiology as a discourse on the combined biotic changes observed in all living tissues. It sees the little pellucid vesicle by a power of its own, when fructified and warmed by a system of cell activity, undergoing segmentation, forming the germinal membrane, which by mysterious foldings and unfoldings and growth, repeats in the being, the story of its ancestors.

Histologists have shown that all tissues of the body are but a combination of cells, and that the tissues combine to form organs. They also show that each cell has a life of its own, and the cell takes on normal change through the process of nutrition. The different organs are therefore normal and perform their appropriate function. If the conditions of nutrition exist throughout the organism, there is health. This statement seems to be conclusive without argument. If in certain cells or groups of cells, the conditions are not favorable for normal nutrition, there is change from the normal; there is disease. The doctor is required. Has he any law or systematic guiding principles that will assist him in guiding the life forces back into the normal?

This simple mental picture of the power that directs all life processes becomes the prime subject of inquiry. It does not matter that we can not analyze the essential power that started and continues the process. We can not analyze the essential powers of magnetism, of heat, light, electricity, chemical affinity or crystallization. Yet, regarding the phenomena produced by each of these agencies, we form principles or laws of their action, and reason of the several processes, and call that scientific. We know of the uniformity of life processes and the laws that govern them, and quite fully understand the conditions of their activity. In these facts we find the foundation for the science of medicine.

Thus far we have been dealing with Nature and her laws, and we do not question the scientific principles noted. The science of medicine in its principal application is for correcting defects in the living processes. It constitutes the art of medicine, and like all other arts finds its guiding principles traced in the laws which underlie the science. If there are no principles, no laws of phenomena, the art is blind, and the attempt to administer relief is empirical.

Such was the art of medicine before the accessory sciences were established. This was a dark period in the history of medicine. Mankind suffered great distress, having no guiding principles. Then there was the "pestilence that walketh in darkness." Plagues prevailed on the earth, uncontrolled. We know the essentials of life and health. In them we have the principles on which must rest the art of medicine, and the science of hygiene.

The art of medicine involves the treatment of disease under scientific guidance. The first problem that we meet is, "What is Disease?" To answer this question we can only give a negative reply, as compared with the normal. When all of the organs of the body perform their functions normally, there is health. When any organ or group of organs ceases to functionate normally, there is disease. Nutrition is a term which indicates a complex, and yet an elementary, process in all the living tissues. If nutrition is normal in every part, there is health. No part can be affected without its disturbance. Any agent which disturbs the nutritive process or any part is a cause of disease. In our physiologic knowledge of the minute processes of life, we can determine the conditions of this essential and elementary process. If so, and if our reasoning is correct, this becomes the first step toward the settlement of all problems as to the treatment of disease. Herbert Spencer and Sir James Paget have accepted this reasoning and hypothesis. Paget has shown from specimens in the Pathological Museum of London such tracings as illustrate defects in the several agencies involved in the process.

The sciences of anatomy and physiology present the health conditions and functions. Pathology notes the diseased changes which occur because of certain abnormal conditions. The art of medicine is called on to discover the disturbing agent, remove it, and apply such therapeutic means as can be devised for correcting the disturbance. This would seem to be a simple problem, yet its answer involves a large range of inquiry, and includes research in all the different sciences.

Suppose one attempt to treat an abnormal process by name, having no knowledge or regard for the normal; it is obvious how blindly his course would lead him. Here have been found the most serious errors in the art of medicine; in the arbitrary naming of a disease we tend to lose sight of the normal process of which the disease is a departure.

Then, too, it is not uncommon in practice to confine treatment to the leading symptoms, and seek their relief without tracing back the symptom to its course and seeking to relieve the primal cause of the trouble. The modern, popularly named disease, "la grippe," is an illustration. In it many a poor victim has succumbed to its on-march, because the symptoms or the name have been treated, ignoring the primal organic difficulty in disturbed secretions which, having been relieved, afford a substantial cure.

The name and character of a disease should be correlated with the organ or group of organs suffering.

When all the organs perform their functions normally, there is health. If one or more organs cease to perform their functions normally, there is disease; call it what you choose. You must guide the abnormal back to the normal. If one would intelligently treat disease, he must know the normal structure and function. Bichat defined life to be the "sum of the forces that resist death." He recognized the complex process of construction and destruction going on, and in the balance of one or the other was life or death. Both are natural. It is as natural to die as to live. Histologists have shown that all tissues of the body, of whatever composition or texture, are made up of the cell, and that each cell has a life of its own. The vital force as manifest in it is not different from that shown in the whole body. In the growth and development of the cell, the tissues are formed. From the tissues, organs are formed, and in the combinations of organs the organism is formed, through which the complex functions of life are produced. In the elementary cell there is growth, development, and assimilation, which process extends with the cell to the different tissues of the whole organism. This process is spoken of in physiologic language as nutrition, and includes the whole complex process of life—metabolism. If nutrition, with all that it includes, is normal, there is health; if abnormal, there is disease. This statement is properly regarded as a truism, and may be accepted as fundamental in the succeeding inquiries.

The next step in our inquiry is: Are the conditions of nutrition so definitely known that we can analyze and detect the *materies morbi?* This inquiry is a rational one. The conditions of normal nutrition, as given by Paget and others, are: 1. The right state of the blood, which involves the processes by which all nutritive material is transformed into blood, the blood-making and blood-purifying organs. 2. A near supply of blood to the part to be nourished. 3. A normal and nondisturbing environment. 4. A constant continuance of the nerve relations with the different parts of the body. No part can maintain an independent existence apart from the whole organism.

We recognize these statements as general principles which no one would question; and when these conditions are all present, the normal physiologic functions will be carried on, and the condition is one of health. If any of them are disturbed, or not present, normal nutrition is disturbed: there is disease. The disturbing influences are not uniform, neither are the life forces or resisting forces uniform in the different persons; hence the phases of diseases are not uniform, and can not be classified with scientific accuracy as one would classify the plants of a garden. The same symptoms are not met in the same form of disease: they are as varied as the changing figures in a kaleidoscope, hence unreliable for scientific guidance of treatment. One must, therefore, treat disturbed organs, rather than various symptoms; for it is essential in the art to consider the differences in each case and adjust treatment to correspond. In the art of medicine one of the most difficult problems is the adjustment of the therapeutic means used, to the differences observed in each case.

Are not the same problems present in every art? The photographer adjusts the sensitive plate in the camera to the varying shadings of light; the seaman, because of differences in currents of air and water, can not abandon his compass and chart of reckoning. Rather, in the storm and danger, they become his only hope and require constant consultation. The physician deals with matter and force, and as differences appear, judgment must detect and modify them so as to meet the conditions of health.

The cause of disease may be in the blood, yet the most minute search may fail to detect it; yet the discriminating power of the tissues records it with precision.

The theory of disease must rest on physiology; or, as the term implies, the joint forces involved in the living tissues in nutrition. So far as the science of physiology is established, the principles to be used as a guide in the art become known. Before physiology became a science, the art was necessarily empirical. The conditions were favorable for all forms of superstition, which did prevail, and even do to this day where the empirical methods prevail. Since physiology has become established, all therapeutic guidance should be found in it as indicating all of the biotic processes. The names given to disease are in no sense guides to the treatment, unless there is associated with them the nature of the disturbed process. Disease is not an entity to be exorcised by charms, or antidoted by some specific. As all life processes are slow in accomplishing their purposes, so diseases come on slowly. The antecedent may have come on gradually, though with slight defects, when by certain exposure the explosion takes place which calls into requisition the care of a physician. This is a common oversight among patients, and often among physicians. Then it is essential to name the disease to the comprehension of patient and friends. The name may be so misleading as to create many misapprehensions as to its real nature. The name commands the whole attention, so that the abnormal phenomena are lost sight of in treatment.

Referring now to the scientific principles which are applicable for guides in administering to the relief of those parts that suffer, we must constantly carry in mind the conditions of normal nutrition, of which the disease is a defect. This involves attention to the blood-making, the blood-purifying organs, proper and digestible food for nutriment, right secretion and excretion, right digestion, right air for the lungs, pure water to meet the constant demands as a vehicle and accessory agent for all the phenomena. In a very large sense we are water machines. The particles composing the regularly formed crystal can not be carried to their place in the crystal, except they be held in solution and free to move. Food, water, air, are in never-ceasing demand. All or any of them being absent or inappropriate in quality, or insufficient in quantity, become a cause of disease. If disease exists they become unquestioned remedial agents, and meet a common demand from all living tissue.

What is a medicine? Any agent which is required to secure or aid the normal function of the organs of the body in health or disease. A therapeutic agent is an assistant rendering service to one suffering. The doctor, who is familiar with the science of anatomy, histology, physiology and pathology, has laws and principles which make him capable—if he has judgment—of applying scientific means as therapeutic agents for relief of the diseased parts. He is an artist, even if he only administers advice and the use of the most common articles of diet. He advises it scientifically, according to accepted principle. If he imposes on the credulity of his patient, or ignores the authority of established principles, he is not to be regarded as a rational physician, but a quack.

There is a common error among some doctors, many patients, and commercial medical men, that doctors or medicines cure diseases; that unguents heal; that poul-

tices draw; that quinin cures ague, mercury, syphilis; that specifics cure diseases which have been arbitrarily named with no reference to the nature of the disease or the cause which produced it. This notion is so absurd as to hardly merit condemnation; yet the idea is so common in journals and in practice that it is worthy of attention. Medicines modify functions; Nature heals. The doctor adjusts the broken bone and keeps the fragments at rest; Nature unites them. He provides the conditions; Nature is the beneficent healer. It is well if he consents to patiently study Nature's way, and then kindly acts as a therapeutist in its literal and liberal sense.

Reverting to the conditions of normal nutrition, and recognizing disease as resulting from a change in those conditions, we can, if we critically examine these disturbed conditions, detect the cause of the disease, which at once presents the indication for the first principle of treatment—the removal of the cause. In attempting this we are, in all idiopathic disease, shut up to physiologic inquiries. Here our guiding principles give assistance. The right state of the blood holds the first place as a factor of nutrition.

We now pass in review the blood-making and blood-purifying organs, and inquire if each of the silent processes of secretion and excretion, assimilation, imbibition, is normally carried on. Unquestionably, in these elementary processes there is the most common cause of idiopathic disease. The chances are that, except with the greatest scrutiny, the beginning of the disturbance may be missed. The most minute special care, therefore, becomes essential. Because of the passive character of these processes, they become easily disturbed when the whole chain of metabolism becomes disturbed and the results are revealed in distinct and remote parts. No class of organs is more important for the general health than the digestive; none are more obviously under the control of the physician. The right supply of blood to the part is not interfered with, except by obvious causes. The first being normal, the continuance is probable, except by some defect in the physiologic processes named.

The third condition of nutrition, as given, pertains to the environments, which are usually quite subject to the care of the doctor. He can so adjust the essential conditions as to avoid excesses and accidents; maintain appropriate temperature, and so adjust the activities as to promote the most perfect growth and development toward the type of being for which we were designed. Every individual has his own type of being. Every individual has a certain quantum of energy at his command, and it becomes his privilege and duty to so use it as to secure the highest development, and the most perfect use of the powers given. Every mechanism has a certain capacity for use. Every fiddle-string has a certain number of vibrations, when it breaks; every engine, a certain number of miles to travel, barring accidents. It is said that a well-designed and well-constructed engine has a capacity of about 400,000 miles, then it undergoes general repair, after which it is put to inferior service. Having run about 300,000 more, its destiny is the scrap-pile. This is, to a certain extent, a type of human life. The biography of an engine of which an accurate record is kept becomes one of the most interesting comparisons with the individual life. The engineer becomes an important therapeutist in administering to the efficiency and endurance of the engine. His care for the engine is not unlike that of the doctor to the human body. He is not alone called on to give medicine, or remove a diseased part, but so to advise and instruct as to avert sickness and calamity. The life processes which are disturbed require correcting.

The fourth and last duty of the physician, to maintain nutrition and health, is the maintenance of the nerve influence throughout the different parts of the entire organism. Here are the most obscure and incomprehensible relations. The entire mechanism, with its automatic or God-given forces must work in harmony. It is through the nervous system that this harmony prevails. The cerebrospinal, ganglionic and special sense nerves, with the various reflexes, become the only physical means for interpreting the mental and spiritual influences in man.

Science has not given all we may yet hope to know of these mysterious relations. In a general way we may claim that the whole life phenomena are subject to and under the control of the nervous system; yet we may with equal force maintain that if all the other functions are normal, this will also be normal, or disturbed by some external influence. Hence we must always note the mutual relations of the different organs or parts, as they affect each other.

It seems to me that if from the preceding my thought is grasped, you will be able to catch a glimpse of the indications for treatment of every form of disease in its relations to the physiologic processes, in which the law of life is fully presented. With such established principles and unquestioned theories, can any one question the scientific basis of the principles of medicine? How can there be any schism? If any one can find a new guiding principle, it finds its place and is gladly welcomed. If the principle, so-called *similia similibus curantur*, is a law of Nature, it should be demonstrable, and I am sure all scientific students should be able to perceive and appreciate it. Laws of Nature are not alone revealed to a certain class, but become manifest to all seekers.

Having thus in a very general way pointed out the phenomena of the life forces of the body, we claim that in them we gain a knowledge of the scientific principles to which we may appeal in our attempt to avert or control disease. This is the art of medicine.

In these inquiries it must be borne in mind that neither medicine nor any agent at our command can produce a new force, or bring any new agency into use. It can only modify, diminish or increase the activity of the forces now acting. Medicine does not, in any but a very limited extent, antidote a poison or cure disease. It modifies certain functions and contributes, to a very limited extent, to the increase of excretion and the elimination of poisons. The laws of astronomy, of physics, of navigation and electricity are apparent and simple, when discovered. On them the whole sciences pertaining to those subjects rest. As physicians we need not worry lest some fad, as homeopathy, osteopathy, hydropathy, "Christian Science" or faith cure impede the triumph of medical science, and seek the field of legislation for protection. The people are able to see when we treat on the laws of certainty for scientific guidance. The most sacred interests of man are involved. Therapeutics has always been, and is to-day, a very obscure subject: obscure because few or no guiding principles have directed to the remedy or remedies to be used There has always been the empirical method in use To-day we ought to have reached the ground of the rationalists, in which the truly scientific physician recognizes the departure from the normal, and has at hand means that give rational assurance of appropriateness for relief. If the therapeutic means given are guided by

accepted physiologic principles, the ground of all controversy will have been removed. As well might the sailor attempt his art by ignoring the science of navigation. Empiricism under such guidance would give way to the rational methods. Schools should lay first and deep the foundations in the essential scientific principles, and then allow the student to apply them in following the art. Such a standard for the art of medicine would reduce the number of doctors, by exacting greater requirements and extending general intelligence among the people, and put the practice of medicine where it belongs, on rational grounds.

In this scheme I present, in outline at least, a survey of the science of medicine as it is to be under scientific guidance.

Therapeutics.

Cold Water Irrigation of Large Intestine for Catarrhal Jaundice.

Simon Baruch, the author of "Hydrotherapy," has found an excellent adjunct in the treatment of catarrhal jaundice in irrigation of the large intestine. He was led to its application in this disease by the publication of Dr. Krull, who treated eleven cases of catarrhal jaundice by simple cold water irrigations of the intestines. After failure with other treatment, which almost invariably had included the Carlsbad waters, these irrigations succeeded, first, in relieving the constipation, and later, in re-establishing the hepatic norm. Dr. Lowenthal reports, in the *Berliner Klin. Woch.*, 1886, forty-one cases of catarrhal jaundice, of which all but one demonstrated good and rapid effects from intestinal irrigations. Four irrigations of one or two quarts, at a temperature varying from 54 to 64 F., increasing three degrees daily—one quart sufficing for children—were needed on an average for each case. In all cases the fecal evacuations, sometimes diarrhea, followed the irrigations: these ceased if the succeeding irrigation was of a somewhat higher temperature. Gray or colorless clay-like masses were evacuated after the first treatment; after the third, the feces became slightly yellowish, and after the fourth usually brown. Gastric pains and oppression, headache, etc., ceased and appetite returned; the icteric hue disappeared once after the first, twice after the second, irrigation. In seven cases pruritus disappeared after from the second to the fourth treatment. The skin began to clear up, but continued dark for a long time. Other reports of similar results are found in recent literature, confirming the value of this *hydriatric measure*, so that it may be regarded as established.

He can testify from personal experience to its beneficial effect in catarrhal jaundice, and to its failure in jaundice from gall-stones. Contrary to Krull's method, he has begun with tepid water, and reduced its temperature daily, and this method has recently been approved by Stadelmann, who has investigated the "cholagogue" action of these irrigations. Once in twenty-four hours, Baruch places the patient in the knee-elbow position and pours from one to two quarts of water of 70 F. into the rectum, from a fountain syringe. The patient is induced to retain the fluid as long as possible. On the following day the temperature of the water is increased two degrees and this decrease is continued until 60 F. is reached. From two to six irrigations are sufficient to produce the desired result. The gastric and hepatic pains ceased after the first injection, appetite soon returned and jaundice disappeared more or less rapidly, but that most distressing symptom, pruritus, was not relieved.

Dr. Robert C. Kemp, who has done so much for the perfection of rectal irrigation, its rationale and its clinical applications, offers the following deductions from his observations for clinical purposes:

When increase of pulse tension is to be avoided in irrigations, the temperature of the water should be 101-104 F.

When a rapid increase of pulse tension is desired, together with improvement of cardiac action, rectal irrigation at 110, gradually increased to 120 F., is advisable.

Cold irrigation, being a temporary stimulant, increases blood-pressure, but later depresses. Hence it should be employed with caution. Irrigation with cold water is dangerous when prolonged. Low irrigation is useful in proctitis, prostatitis, etc.

In hemorrhage, irrigation at 110-120 F. secures the most rapid result, improves the pulse, and relieves shock.

In duodenal jaundice, cold high irrigation for a very short period, alternated with hot irrigation with the glass-tube irrigator, as suggested by Dr. Minor, has proved useful, as well as in chronic constipation.

Treatment of Tubercular Glands.

The following practical rules for the treatment of tubercular glands are given by Sebileau in the *Journal des Praticiens*, September, 1899 (*Ther. Gaz.*, January, 1900):

Bicycle exercise for an hour in the morning followed by a cold sponge with dry friction and a breakfast of boiled milk, bread, butter and eggs. Several hours are then to be spent quietly in the sunshine. Before and after each lunch the patient may walk a short distance. The diet should consist largely of roast and boiled meats, fish, boiled milk, and eggs; green vegetables should be partaken of sparingly. After an afternoon nap there should follow an alcohol rub and passive exercise to the muscles of the trunk.

Two or three drops of Fowler's solution is beneficial once or twice a day. A small dose of cod-liver oil should be given fifteen minutes after lunch and dinner. If this causes indigestion, pancreatin will allay it. As a nerve tonic, the following is of value:

℞. Glycerini ..... ℥ii
Sodii phosphati ..... ℥ii
Calcii phosphati ..... ℥ii
Ext. cinchonæ ..... ℥iv
Vini malagæ ..... Oii
M. Sig.

Surgical intervention will undoubtedly be necessary in the disease, but this treatment is beneficial in building up the system.

Fluid Extract of Lemon in Malarial Infection.

E. Dimattei has been testing the value of fluid extract of lemon as a prophylactic in malarial regions, in Catania, Italy, the entire personnel of the railroad having been placed under his orders for several years. He announces that the results are most encouraging (*Gazzetta degli Ospedale*, January 7). From 1890 till 1894 the number of persons in the service of the railroad who were affected with malaria amounted to 66 per cent. With lemon treatment the percentage fell to 32 in the next three years, and to 25 in 1898.

Tabetic Atrophy of the Optic Nerve.

DeWecker asserts, in *Ann. d'Ocul.*, 1899, 1, that specific treatment does not affect tabes favorably. It even accelerates its development during the incipient stages. In every patient with gray atrophy who has taken a course of specific treatment, the sight diminished at once. This coincidence is too frequent and too striking not to signify that the treatment is directly responsible for the lowered vision.

Irritable, Hacking Cough of Phthisis.

℞. Codeini ..... gr. iv
Acidi hydrocyanici, dilut ..... ℥ss
Spts. chloroformi ..... ℥iss
Syrupi limonis ..... ℥i
Aquæ, q. s., ad ..... ℥iv
M. Ft. emulsum. Sig. A teaspoonful frequently when cough is troublesome.

—*Murrell.*

Spray for Room Occupied by Consumptive.

℞. Guaicol ..... 10 parts
Eucalyptol ..... 8 parts
Acidi carbolici ..... 6 parts
Menthol ..... 4 parts
Thymol ..... 2 parts
Olei caryophyli ..... 170 parts
M. Mix and dissolve.

This, used freely, in addition to free ventilation, purifies the air and is very refreshing.

—*Yonge.*

Constipation in Children.

J. P. Crozer Griffith, author of "The Care of the Baby," finds this a very frequent condition in children and especially in infants. Those fed on the bottle are the most disposed to it. The passages may be too infrequent, or too hard, and generally are both. In treating the affection, the cause of the difficulty should be sought and removed, and laxative drugs be kept as a last resource. As an increase of the fat in the food is often needed, a larger proportion of cream can be added to the bottle, or, in case of breast-fed babies, be fed from a spoon. A teaspoonful or less of olive-oil given once a day, or of drug-store "syrup" two or three times a day, is harmless and often effectual. The employment of oatmeal water instead of plain water in preparing the food, or of brown sugar, or a syrupy malt extract for sweetening it, may have the desired laxative effect. When this does not answer, a small quantity of oatmeal itself or of other starchy food may be added instead of oatmeal water, but this should only be done by a physician's advice. In children over one year of age, a little stewed fruit or a baked apple may be tried carefully. Strained stewed prune juice is often excellent. The juice of an orange is frequently very serviceable, and a little may sometimes be given with advantage even to a younger baby. In still older children the diet should contain plenty of fluid and foods that are somewhat laxative.

The very early culture of a habit of regularity helps to prevent constipation. At a certain fixed hour—best after one of the principal meals, generally breakfast—the baby, as soon as old enough, may be supported on its nursery chair and kept there for five minutes at least, but never permitted to strain. A daily cool bath, followed by a brisk friction, is of decided benefit. Daily massage of the abdomen is an excellent remedy, practiced just before the hour at which an evacuation is desired. The palm of the hand should be applied with gentle pressure just above the right groin, and be carried in a horseshoe shaped curve up the edge of the ribs, across to the left side and down toward the left groin, thus following the course of the large intestine and propelling its contents toward the opening. The hand should be warm, a little sweet-oil or vaselin should be used, and the massage should last about ten minues.

The treatment detailed is intended for habitual constipation. For the immediate unloading of the bowel one of the simplest and least harmful methods is the giving of one or more enemata of warm water, containing salt in the proportion of a teaspoonful to a pint. Soapy water may be used instead, if something stronger is needed. The amount to be injected varies with the age. For young babies, one or two ounces is sufficient, and for those of 2 years, two or three times this amount. Either the hard-rubber syringe or the infant's syringe may be used. A useful injection consists of half a teaspoonful of glycerin in full strength. This is best given from a small hard-rubber syringe holding not more than half an ounce. The opening in the nozzle should be larger than ordinary, as the glycerin does not flow readily. If the mass in the bowel is large and hard, an injection of warm sweet-oil, retained some hours if possible, is better than anything else. It should be followed by an enema of soapy water. In some cases it is necessary to insert the finger or a small spoon-handle into the bowel and break up the masses carefully.

Glycerin suppositories—glycerin and soap—of a size for children are often excellent for opening the bowel. Gluten suppositories are also serviceable in many instances. A more economical plan is to employ little home-made suppositories of castile soap, or, in place of these, a soap stick, which can also be made at home and which has the value of lasting for repeated usings. It consists of a smooth conical stick of firm castile soap two or more inches long, half an inch thick at the base and tapering toward the other end to the thinness of about one-quarter of an inch. It should be greased with vaselin before using, inserted part way into the bowel and held there until a tendency to an evacuation shows itself.

If none of the methods described is effectual, laxative drugs must be employed. Their use, however, ought to be deferred as long as possible, and is much better left to a physician. Probably the best and least harmful of drugs is cascara in some form. There is made a cascara cordial which has a pleasant taste and is very effectual. Another very useful preparation is the syrup of senna, which is easily taken by children, as its taste is agreeable. Little sugar-coated pills, each containing 1/10 grain or less of aloin are sometimes of service, one being given daily to a child of 2 years. A small quantity of manna, about 5 grains, can be given to a baby of six months once a day or oftener, dissolved in the milk, as its taste is sweet, or 10 grains of phosphate of soda may be used in a similar manner. Magnesia or spiced syrup of rhubarb answers very well, but only for occasional use.

Arsenic and Iron in Chloroanemia and Tuberculosis.

Martinet asserts, in a recent communication to the *Presse Médicale* of January 6, that the combination of arsenic and iron enhances the effect of each and, judiciously administered, prevents intolerance. It is especially beneficial in chloroanemia verging on the pernicious form, and in torpid, apyretic tuberculosis and the ganglionary form. He reviews the various methods of administration current in various countries, in connection with his own extensive experience, and states his preference for the alternate administration of protoxalate of iron and an arsenical water (Bourboule), a month each; or equal parts of tincture of iron and Fowler's solution—four to twenty drops in beer or milk, in the middle of the morning and noon meals, or the administration of arsenic of iron. He cites numerous observations of the efficacy of this combination.

Ingestion of Oil in Constriction of Pylorus.

Cohnheim proclaims that the systematic ingestion of oil should be tried in every case of constriction of the pylorus before considering surgical intervention, as it may render the latter unnecessary (*Berlin Klin. Woch.*, No. 49). In a case under observation at Boas' clinic there was dilation of the stomach resulting from stenosis of the pylorus due to cicatrization of a traumatic lesion. The symptoms of gastrectasia were only partially relieved by lavages of the stomach, but a liqueur glass of linseed-oil morning and evening arrested all the symptoms. By the end of five weeks there were no further digestive disturbances, and the oil is now only taken occasionally as a precautionary measure after table excesses. It evidently not only lubricates the alimentary canal and thus facilitates the passage of food, but has also a soothing effect on the irritation of the pylorus—the cause of the spasm, which adds its effect to the organic stenosis.

Diabetic Pharyngitis.

There is no tumefaction and no fever in diabetic pharyngitis, but in other respects it resembles pharyngeal erysipelas. Two observations have recently been described by Verdos, in *Oto-Rino-Laryngol. Espanola*. The symptoms were merely dryness of the throat and difficulty in swallowing and in removing the tenacious accumulations of mucus on the pharyngeal walls. The urine contained 30 to 50 gm. of sugar to the liter. Besides the general treatment of the diabetes, mentholized sprays, alone or combined with an astringent powder such as sodium borate, proved most effective. He observes that in rebellious cases he would not hesitate to apply an iodin solution to the entire surface of the affected mucosa.

Cough in Phthisis.

℞ Codein ..... gr. iss
Terpin hydrat ..... gr. xv
Ext. hyoscyami ..... gr. iss
Ext. belladonnæ ..... gr. 1/4
Mas cyroglossi ..... gr. viiss
M. Ft. pil No. x. Sig. One four times daily.—*Jour. des Pratic.*

Neuralgia of the Face.

℞ Butyl chloral hydrat
Spt. vini rect, āā ..... ℥iiss
Glycerini ..... ℥v
Aquæ, q. s., ad ..... ℥v
M. Sig. A teaspoonful once or twice daily.

Formol for Inoperable Cancers and Moist Gangrene.

A. Ranelletti calls attention to the advantages of a solution of formol in transforming mortified tissues into eschars which put an end to all absorption of putrid products and thus minimize septicemic infection. The *Semaine Méd.* adds to his announcement that 20 per cent. formalin has the maximum desiccating effect.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, February 3.

1.—*A Visit to the Plague Districts in India. Lewellys F. Barker and Joseph Marshall Flint.
2.—*Malarial Hematuria. Bat Smith.
3.— Development of Female Genitals and Their Life History. Byron Robinson.
4.—*Experimental Research on Tensile Strength of Sciatic Nerve. George W. Crile and William E. Lower.
5.— Aneurysm of Subclavian Artery and Its Treatment. A. H. Barkley.
6.—*Use and Abuse of Poultices. Samuel E. Earp.
7.—*School Hygiene. G. D. Hamlin.
8.— Case of Neurosis of the Heart; Palpitation. Abraham Goltman.

Medical Record (N. Y.), February 3.

9.—*Significance of Intraocular Hemorrhage as to Prognosis of Life. Charles Stedman Bull.
10.— Gastrectomy for Adenocarcinoma; Recovery. H. Beeckman Delatour.
11.— Report of a Severe X-Ray Injury. Patrick Cassidy.
12.—*The Tonometer, a New Instrument to Determine the Amount of Blood-Pressure. Henry L. K. Shaw.
13.—*Mucinemia, and Its Rôle in Experimental Thyroprivia. I. Levin.
14.—*Gonorrhea in Its Relation to the Male Adnexa. E. Wood Ruggles.
15.—*Chemical Relationship of Colloid, Mucoid and Amyloid Substances (a Preliminary Communication). P. A. Levin.

Medical News (N. Y.), February 3.

16.—*Prophylaxis in Gynecology. Henry C. Coe.
17.—*Etiology and Prevention of Uterine Disease Before and During Puberty. W. Gill Wylie.
18.—*Prophylaxis in Gynecology: Obstetrics. James Clifton Edgar.
19.— Diagnosis of a Case of Cerebral Tumor; Operation. O. M. Steffensen.

Boston Medical and Surgical Journal, February 1.

20.—*Intestinal Indigestion and Its Relation to Pulmonary Disease. Chauncey Rea Burr.
21.— Cases of Cholecystotomy. Edgar Garceau.
22.—*Some Points Suggested by Clinical Study of One Hundred and Eighty-six Cases of Valvular Heart Disease. Richard C. Cabot.
23.— Epilepsy. Walter E. Paul.
24.— Notes from the Neurologic Department of the Massachusetts General Hospital: 1. Case of Combined Superior and Inferior Poliencephalitis. G. L. Walton.

Philadelphia Medical Journal, February 5.

25.— Medical Commission to the Philippines. L. F. Banker.
26.—*Latent Cancer of the Stomach. William Osler and Thomas McCrae.
27.—*After-History in Case of Successful Total Extirpation of Stomach. Charles Brooks Brigham.
28.— Notes on Total Removal of Human Stomach, and on Gastroplication with a late History of Two Cases. G. Childs MacDonald.
29.—*Perforating Gastric Ulcer and Its Surgical Treatment. Martin B. Tinker.
30.—*Syphilis of the Stomach. Max Einhorn.
31.—*Remarks on Diagnosis and Surgical Treatment of Perforated Gastric Ulcer; with Illustrative Cases. Maurice H. Richardson.
32.— Acute Dilation of the Stomach. Henry Ward Bettmann.
33.—*Histologic Studies Relating to Early Diagnosis of Carcinoma of the Stomach. John C. Hemmeter.
34.—*Newer Applications of Gastroenterostomy in Treatment of Diseases of the Stomach. Robert F. Weir.
35.—*Gastroplication for Dilated Stomach. Randolph Winslow.
36.—*Direct Electrization of the Stomach, Especially by High Tension Faradic Currents. Boardman Reed.
37.—*Motivity of the Stomach. Fenton B. Turck.
38.—*Diagnosis of Gastric Ulcer, with Report of Cases. Frank H. Murdock.
39.— Surgical Treatment of Diseases of the Stomach. William J. Mayo.
40.—*Stricture of the Esophagus Resulting from Typhoid Ulceration, with Report of a Case Introducing a New Method of Treating Esophageal Strictures. John S. Pyle.
41.—*Indications for Surgical Interference on the Stomach. James H. Dunn.
42.—*Gastrosuccorrhea. H. W. Lincoln.
43.—*Autoinsufflation of the Stomach: A New Method. C. D. Spivak.
44.— Case of Vertical Stomach. George Macy Ekwurzel.
45.— Case of Traumatic Stricture of Esophagus Treated by Electrolytic Dilation. Albert G. Minshall.

Cincinnati Lancet-Clinic, February 3.

46.—*Some Benefits of Vivisection or Experiments on Living Animals. E. Stuver.
47.— Admissibility of Syphilitics to Life Assurance. Thos. C. Minor.

Medical Review (St. Louis, Mo.), February 3.

48.— Some Remarks on the Report of the St. Louis Asylum for 1897-1898. (*Concluded.*) Edward C. Runge.

Medical Age (Detroit, Mich.), January 25.

49.— Immediate and Remote Effects of Nasal Obstruction. F. R. Reynolds.
50.— Rare and Interesting Bullet Wound; the Bullet Splitting in Halves, as Shown by the Skiagraph. Angus McLean.
51.— Angiotribe in Practice. W. P. Manton.
52.— Serum-Diagnosis of Typhoid Fever. J. Howe Adams.

Columbus Medical Journal, January 5.

53.—*Mild Types of Typhoid Fever. George Murray Waters.
54.— Necessity of Using Atropia or Hematropia in Determining Refraction of the Eye. J. G. Grant.

American Gynecological and Obstetrical Journal, January.

55.— Acute Inversion of Uterus. A. Lapthorn Smith.
56.—*Improved Method of Treating Prolapse of Uterus and Bladder. I. S. Stone.
57.— Treatment of Complete Prolapse of Uterus and Vagina. X. O. Werder.
58.— Results of Conservative Surgery in Some Recent Cases of Serious Pelvic Disease. Hiram N. Vineberg.
59.— Intraligamentous Growths. Thomas H. Hawkins.
60.—*Etiology of Nausea and Vomiting of Pregnancy. David J. Evans.
61.—*Further Experience with Operative Treatment of Anteflexion. W. L. Burrage.

Ophthalmic Record (Chicago), January.

62.— Case of Rhinitis Circinata. G. E. deSchweinitz.
63.— Case of Irido-Cyclitis Involving Hemorrhage and Hypopyon, and Extensive Deposits in the Vitreous, with Final Restoration of Good Vision. Edward J. Brown.
64.— Case of Congenital Incomplete Ophthalmoplegia Externa. F. W. Marlow.
65.—*Relation Between Choroiditis and Rheumatism. T. Edward Converse.
66.—*Electrolysis in Granular Disease of the Eyelids. T. D. Myers.
67.—*Two Cases of a Peculiar Visual Perversion. F. C. Hotz.
68.— Hemorrhage Into the Eyeball. A Clinical Note. H. F. Hansell.
69.— Abnormally Acute Vision. C. M. Culver.

The Post-Graduate, January.

70.— Old New York Hospital. B. St. John Roosa.
71.— Neuralgia of Rectum. Samuel G. Gant.
72.— Cutaneous Burns by Heat. Robert T. Morris.
73.— Septic Pneumonia. Ramon Guitéras.
74.— Some Neurologic Notes. Philip Meirowitz.

International Medical Magazine (Philadelphia), January.

75.—*Treatment of Acute and Curable Forms of Melancholia. Warren L. Babcock.
76.—*Some Ocular Inflammations of the Newly-Born and Their Treatment. Frederick Krauss.
77.— What are the Doctor's Duties to Pregnant Women Before Labor? Edward A. Ayers.
78.— Nervous Manifestations in Diseases of Children. John Madison Taylor.
79.— Stricture of the Urethra. J. D. Thomas.
80.— Nervous Dyspepsia (Gastric Neurasthenia). Boardman Reed.

Journal of Alumni Association of College of Physicians and Surgeons (Baltimore, Md.), January.

81.— Material Needs of Medical Education. William H. Welch.
82.— Case of Tetanus Treated with Anti-Tetanic Serum Resulting in Recovery. Edward V. Murphy.
83.— Advice to Gonorrheal Patients. W. L. Champion.
84.— Treatment of Syphilis by the General Practitioner. Harvey P. Jack.

Medical and Surgical Bulletin (Nashville, Tenn.), January.

85.— Cancer of Intestine. M. C. McGannon.

Obstetrics (N. Y.), January.

86.— Conditions which Govern Success in the Sänger Cesarean Section, from the Standpoint of a Personal Experience of Fourteen Cases Without Mortality. Edward Reynolds.
87.— Causes and Treatment of Abortion. W. J. Aldrich.
88.— Chorea with Report of Case Complicating Pregnancy. T. W. Gallion.

Medical Mirror (St. Louis, Mo.), January.

89.—*Address in Surgery; The Essential Requirements of a Modern Surgical Procedure. Lewis S. McMurtry.
90.—*Surgical Tolerance and Results. F. F. Bryan.
91.— Alcoholic Gastritis. J. A. Hofheimer.

Therapeutic Gazette (Detroit, Mich.), January 15.

92.—*Therapeutics of Tuberculosis. Lawrence F. Flick.
93.—*Experience in Treatment of Tuberculosis by Drugs. Dr. Holland.
94.— Use of Creosote in Pulmonary Tuberculosis. Irwin H. Hance.
95.—*Use and Abuse of Drugs in Phthisis Pulmonalis. G. W. Schauffler.
96.—*Electrolysis for Aortic Aneurysm; Another Case and a Report on One Previously Reported. H. A. Hare.
97.— Treatment of Gonorrheal Rheumatism. Charles H. Frazier.
98.— Chloretone as a Safe Hypnotic. W. M. Donald.

Southern California Practitioner (Los Angeles), January.

99.— Operative Treatment of Hernia with Report of Cases. W. W Beckett.
100.— Report of Case of Acute Osteomyelitis of the Tibia: Treatment and Final Result. A. S. Parker.
101.— Obstruction of Nasal Duct. Geo. J. Lund.
102.— Acute Rhinitis. W. S. Fowler.
103.— Care of Mouth in Sickness. L. E. Case.
104.— Surgical Treatment of Rice Bodies. Fred Shurtleff.

Cleveland Journal of Medicine, January.

105.—*Fractures of the Skull. N. Senn.
106.— Case of Hairy Mole on the Face. F. E. Bunts.
107.—*Normal Position of Uterus in Pelvis, Considered in Relation to Its Physiologic Mobility. Hunter Robb.
108.— Fibromyoma Occurring in Left Labium Majus. Benjamin O. Coates.

Buffalo Medical Journal, February.

109.—*Clinical Thermometer as a Germ Carrier. W. L. Conklin.
110.— Presentation of Patient Sixteen Months after Modified Kraske's Operation for Extirpation of Rectum. S. L. Elsner.
111.— Sensory Phenomena in Megrim. J. C. Clemesha.

112.— Incineration of Garbage and Excrement at Military Camps. W. G. Bissell.
113.—*Sterilization of Catheters. Byron H. Daggett.

Interstate Medical Journal (St. Louis, Mo.), January.

114.— A Clinical Lecture: Gas Poisoning, Followed by Pneumonia and Acute Parotiditis. George L. Peabody.
115.—*Some Suggestions in Care of the Tubercular. William Porter.
116.—*Non-Medical Treatment of Chronic Constipation. H. G. Nicks.
117.— The Clitoris. Byron Robinson.
118.— Neurasthenia and Nuclein Therapy. Arthur E. Mink.
119.— Report of Case of Severe Renal Hemorrhage which Closely Resembled Bleeding from the Bladder or Post Urethra. Bransford Lewis.
120.— Premature Burials. Henry J. Garrigues.
121.— Sarcoma of Conjunctiva, with Remarks on Metastatic Sarcoma and Carcinoma of the Choroid. James Moores Ball.

Colorado Medical Journal (Denver), January.

122.— Diuretics in Renal Dropsy: Their Indications and Uses. E. R. Axtell.
123.— Chronic Pneumonia. E. R. Axtell.

Medical Sentinel (Portland, Ore.), January.

124.— Ventrosuspension of Uterus. R. C. Coffey.
125.— Fracture of Olecranon. Wm. Jones.
126.— Puerperal Eclampsia. J. W. Gunn.

AMERICAN.

1. **Plague Districts in India.**—The article by Barker and Flint is a very interesting description of personal observations in the plague-ridden districts in India, full of details.

2. **Malarial Hematuria.**—Smith's article is to be continued. In the present instalment he gives the history of the condition, which he credits to malarial toxemia of long standing; the anatomic changes and symptoms.

4. **Tensile Strength of Sciatic Nerve.**—Crile and Lower report experiments made on cadavers and dogs, to test the tensile strength of the sciatic nerve, which has been sometimes stretched for therapeutic purposes. They criticise Wertheim's former results as being faulty in the method, a long time being employed and the nerve being removed from the body. He finds the average weight required to rupture the nerve in the human cadaver to be 140¾ pounds. Out of 14 cases, 6 broke at or near the point where the hook was applied. In the other 8 the nerve itself did not break, but its connections with the spinal cord and its membranes were detached. The summary of his experiments on dogs, 72 in number, is given in detail. The right sciatic was found the stronger in 29 out of 51 cases, where both were tested, the left the stronger in 11 and both equal in 11. The average ratio of weight of dog to tensile strength was as 3 to 4. In only 4 cases was the tensile strength less than the weight. The average ratio for small dogs, weighing from ten to fifteen pounds, between weight and sciatic tensile strength, was 3 to 5. In dogs weighing from sixteen to forty pounds, it was 2 to 3, while in dogs of forty-one to fifty pounds, it was 6 to 7.

6. **Poultices.**—The use and abuse of poultices is discussed by Earp, and he summarizes the benefits as follows: 1, to relieve congestion; 2, to reduce inflammation; 3, to promote absorption, favor resolution, or hasten suppuration; 4, to diminish tension; 5, to soften incrustations; 6, to encourage tissue relaxation; 7, to stimulate healthy granulations; and 8, to perform the office of a deodorant and, in a sense, of an antiseptic.

7. **School Hygiene.**—Hamlin's paper is intended to call attention to the fact that the thorough knowledge of school conditions will be of great value to physicians in assisting in the diagnosis of children's diseases. He thinks there is great need for radical improvement in the environments, a simplification and abridgment of our school curriculum, and more advantages for physical development.

9. **Intraocular Hemorrhage.**—This condition is described by Bull, who sums up, as conclusions drawn from his experience, as follows: 1. Hemorrhages into and beneath the conjunctiva are of little importance in the young, as they usually occur as the result of violent muscular effort, as in coughing or long-continued sneezing. The vessels in the conjunctiva, having little or no support in the loose connective tissue, readily give way to paroxysms of violent expiration. In the aged they occur spontaneously and point to a general weakened condition of the vascular walls. 2. Hemorrhages in the interior of the eye are always of prognostic significance. In senile angiosclerosis retinal hemorrhages are very frequent, and point significantly to the probable occurrence of cerebral apoplexy. 3. Recurrent retinal and subhyaloid hemorrhages in the young are of slight prognostic importance, especially if due to syphilis, whether inherited or acquired. 4. Hemorrhages into the vitreous in the young are of grave prognostic importance, especially if due to general vascular degeneration. 5. In chronic interstitial nephritis and in diabetes retinal hemorrhages are of very grave prognostic significance and, independently of the presence of exudative rhinitis, point to a fatal termination of the disease. The mere presence of thrombosis of the central retinal vein and hemorrhages in the retina should arouse suspicion of the existence of albuminuria, and if this suspicion is confirmed by urine analysis the prognosis in the case is more unfavorable than in those cases in which the hemorrhages do not exist.

12. **The Tonometer.**—Shaw describes Gärtner's tonometer, which consists of a pneumatic ring, mercury manometer, rubber ball and tubing. The ring is made of metal, about one inch in diameter and one-half inch in height, lined with very thin rubber tightly wired above and below on the outer surface. A piece of rubber covers the outside, so that air can only enter through the rubber tube attached to one side. The ring is placed on the bloodless finger, avoiding joints, and over the digital arteries so that no blood can pass through. The pressure in the ring is gradually reduced, and the instant it is equal to or a little less than that in the arterial system, the blood will flow through the arteries and the finger tip will become hyperemic. The manometer records the exact amount of pressure exerted on the finger, so that when the finger tip becomes red, the amount registered in the manometer is approximately the amount of blood-pressure in the digital arteries. The conditions in which this may be clinically employed are enumerated. The most important one is so-called idiopathic cardiac hypertrophy. Others are arterial sclerosis, nephritis, chronic lead poisoning, and toxemic conditions. Shaw thinks the state of pressure in the arterial system plays an important rôle in medicine which is always recognized by the physician and that in this instrument we have a simple, practical and accurate clinical instrument for determining the amount of arterial tension, of value not only in scientific investigation, but also in the daily practice of medicine.

13. **Mucinemia.**—Levin has studied the relation between mucinemia and the thyroid, on rabbits, and finds that mucin accumulated in or introduced into the blood of a normal organism produces a certain depressive effect on the central nervous system; that it is not fatal to a normal organism, and is decidedly fatal to one deprived of its thyroid. Mucinemia then, one may conclude, is the pathologic condition of the organism resulting from the absence of the thyroid function; but this conclusion does not exclude the possibility of other abnormalities arising from the same cause.

14. **Gonorrhea.**—The complications of gonorrhea: inflammation of the testicle, epididymitis, vas deferens, ejaculatory ducts, seminal vesicle and prostate are noticed by Ruggles, and cases of some of them reported in detail. In many the prostate may be affected and the condition not easily recognized. The microscopic finding is the only means for obtaining satisfactory results.

15. **Chemical Relationship of Colloid, Mucoid and Amyloid Substances.**—In this preliminary communication, Levin finds that the acid radicals of these three substances are very similar to each other. The investigation into the question as to whether they are only similar or identical is still in progress.

16. **Prophylaxis in Gynecology.**—The necessity for the proper comprehension of pelvic diseases is pointed out by Coe, and he regards it as a hopeful sign of progress that the need of preparing young women for their duties and responsibilities is more clearly recognized than ever before. The special points he mentions are the dangers from gonorrheal infection, the general application of the principles of antiseptic midwifery, and he seems hopeful of the future even as regards malignant disease, though at present, from a prophylactic standpoint, it is as hopeless as ever. The old methods of local treatment are mentioned simply to criticise them.

17. **Prevention of Uterine Disease.**—Wylie holds that up to the age of 9 or 10 years girls and boys should be treated on the same general principles, but between the ages of 10 and 18

the girls need special care. Their mental condition is apt to be developed at the expense of the physical, just at the time when their development needs most careful attention. The special troubles mentioned are: imperfect development due to bad hygiene during the developing period, functional disorders of the ovaries from the same cause, and a special point is made as to the correction of habits of constipation and reforming certain faulty modes of dressing, especially lacing, corsets, etc.

18. **Prophylaxis in Gynecology: Obstetrics.**—Edgar describes the precautions to be taken during pregnancy and labor, to prevent subsequent unpleasant gynecologic complications; among them, attention to the exercise and proper nutrition, limiting the duration of labor, prompt surgical treatment of traumatisms from this cause, asepsis and the management of the puerperal period. He describes and illustrates a binder, which he recommends. As regards drugs, he notes the favorable influences of strychnin administered both in the latter part of pregnancy and during the puerperium, and the advantage of "rotation of the puerperium." As regards posture during the lying-in state, he condemns the practice of keeping the patient on the back for any length of time. By "rotation" he means change of the patient's position in bed, equally divided between the dorsal, abdominal, right, and left lateral postures during the twenty-four hours, and he also advises the abdominal posture in early pregnancy in anticipation of the requirements of the lying-in state. Another point which he calls attention to is the advantage of the early use of the vessel in bed, or the commode at the side of the bed early in the puerperium, in hastening involution, favoring uterine drainage, and in the avoidance of pelvic congestion.

20. **Intestinal Indigestion and Pulmonary Diseases.**—The departure from the normal causing an autointoxication may be either from the liver or the small intestine. In the case of the latter, instead of being a sterile tube it becomes a breeding-place for every variety of micro-organisms, giving out their toxins. The liver cells are poisoned, and the circulation is flooded with these toxic bodies. If there is hepatic insufficiency, the same results may be brought about. There are three avenues of exit by which the blood purifies itself, the skin, lungs and kidneys. In severe cases all three may show signs of distress, the skin functions be disturbed, congestion occur in the lungs and kidneys inducing the inflammatory diseases in these parts. Besides these organs, the toxic shock seems to especially affect the nervous system and the blood, causing headache, labored respiration, disturbed cardiac action, etc. Organic changes occur if the irritation is long enough continued and in the blood a hemoglobinemia develops. Burr calls attention especially to the pulmonary aspects, and points out that from the nervous system the pneumogastric is affected, the respiratory center is interfered with, and in some cases the phrenic may be involved. The toxins may embarrass the respiration, weakening the epithelial cells of the alveoli of the lungs and endothelial cells of the capillaries so they no longer efficiently exercise their functions of phagocytosis. The patient who begins with intestinal indigestion becomes finally poisoned in his lungs. The practical conclusion the writer draws is that changes can be made to advantage in the traditional treatment of pneumonia and consumption. The greatest care should be given to the condition of the digestive tract, and he recommends, as especially useful, calomel and podophyllin, and the addition of the chlorids, which are lacking in pneumonia. In conclusion he reports a case where marvelous benefit occurred from the use of a small quantity of salt solution injected under the skin in a far-gone case of consumption.

22. **Valvular Heart Disease.**—The first points noticed by Cabot are his method of recording cases, and localizing the apex-beat. He thinks we should include, in the definition of this, those cases where there is a systolic retraction instead of an impulse; next, the place of maximum intensity for the regurgitant murmurs, which he thinks is most commonly on the left of the sternum. His fourth point is simply the question, on what evidence should we base the diagnosis of aortic stenosis? Is the presence of a tactile thrill in addition to the loud systolic murmur sufficient to warrant the diagnosis? In his study of 186 cases, he has found it reasonable to deny that there is any one form of valve lesion constantly associated with hypertrophy or the lack of hypertrophy of the right ventricle. He calls attention to the worthlessness of epigastric pulsation as evidence of right ventricle hypertrophy. Lastly, he notices the difficulty of diagnosis of aortic regurgitation in the presence of a continued lesion of the mitral valve, and he asks whether it is justifiable to make a diagnosis of mitral stenosis in every case where we are sure there is an aortic regurgitation.

26. **Latent Cancer of the Stomach.**—Osler and McCrae recognize three groups of latent cancer of the stomach: 1. A very small one in general hospitals, a very large one in almshouses and asylums, comprising cases in which the symptoms are those of a gradual enfeeblement without any indication of local disease—as Oliver Wendell Holmes puts it, in the "One Horse Shay," "a general flavor of mild decay, but nothing local." 2. Cases in which, with an absence of gastric symptoms, the lesions of associated disease seem sufficient to account for the condition. In this group were four of their cases. In two the diagnosis of nephritis was made; one had advanced pulmonary tuberculosis with pneumothorax, and the fourth showed profound anemia with multiple venous thrombi. Cases of each group are reported. The authors call attention to the extent of the condition, with practically no symptoms appearing. In 3 of the cases a very large part of the stomach was involved, in 2 the cardiac orifice, and in 2 the pylorus. In 1 the growth involved the esophagus, and in 1 to a slight extent the duodenum. In 3 instances there was ulceration, and in 5 metastases were present.

27. **Extirpation of the Stomach.**—The history of Brigham's successful case of gastric extirpation is given with an account of the patient's present condition, including a blood examination.

29. **Perforating Gastric Ulcer.**—Tinker tabulates and analyzes seventy-six cases of operation for perforating gastric ulcer performed during the past year. While admitting that there may be many unfavorable cases not reported, he thinks the number of recoveries is such as to be encouraging.

30. **Syphilis of the Stomach.**—The syphilitic affections of the stomach are grouped by Einhorn as follows: 1. Gastric ulcer of syphilitic origin. 2. Syphilitic tumor of the stomach. 3. Syphilitic tumor of the pylorus. Cases of each are described. The first is the one chiefly noticed in the literature, the second has received but scant mention, and the third, while its recognition is of the greatest importance, has not, he thinks, heretofore had a clinical description. It is well, for therapeutic and other reasons, in cases of intractable gastric disease, to keep in mind the possibility of a syphilitic origin.

31.—See abstract in THE JOURNAL of Nov. 4, 1899, p. 1166.

32.—Ibid., Nov. 25, 1899, p. 1359.

33. **Early Diagnosis of Gastric Carcinoma.**—Hemmeter, after noticing the value of the examination of detached fragments from the stomach walls and the varieties of malignant neoplasms that may occur there, says that all the facts thus derived contain possibilities of error and that the early diagnosis must be expected to be difficult. He then calls particular attention to the abnormal mitoses, hypo- and hyperchromatic, with other pathologic varieties that are found only in the malignant neoplasms, which may afford a logical early diagnosis. Only one case (Lubarsch) exists in the literature where it is claimed asymmetric mitoses were found and the diagnosis of cancer not confirmed. Three are here given in which an early diagnosis was made by this method.

34. **Gastroenterostomy.**—Weir notices the conditions for which this operation has lately been recommended: obscure gastralgia, ulcers, hemorrhages from ulcers, and atony without pyloric narrowing. It places the organ at rest and allows recovery in many of the cases. Three are reported illustrating his remarks, and the method of operation is described.

35. **Gastroplication.**—Winslow reports a case of Bircher's operation for dilated stomach with good result.

36.—See abstract in THE JOURNAL of February 10, p. 264.

37. **Motivity of the Stomach.**—The symptoms, causes, pathology and treatment of gastric motor insufficiency are described by Turck.

38. **Diagnosis of Gastric Ulcer.**—Murdock discusses the symptoms of gastric ulcer, reporting two cases, and concludes that we may diagnose ulcer of the stomach in patients with dyspeptic symptoms very positively in one of three ways: 1. By the occurrence of hemorrhage from the stomach. 2.

By the presence of severe pain relieved by orthoform. 3. By discovering a small, constant, circumscribed spot of tenderness in the epigastrium, with or without a corresponding tender spot to the left of the one of the lower dorsal vertebræ.

40. **Stricture of the Esophagus.**—Pyle describes and illustrates a new method of treating stricture of the esophagus. The apparatus consists of a rubber tube about the size of a No. 12 male catheter, containing in its composition silk fiber, a wire guide bearing an olive point, two tissue-rubber digital-shaped sacs, one very fine digital-shaped silk sac and a force-pump, including the necessary trimmings. Piano-wire is used for the guide. The distal end bears a small, brass olive-point to avoid puncturing the digital-shaped sacs. The wire guide is placed in the rubber tubing and secured at its proximal end by the metal trimming used for connecting the rubber tubing to the force-pump. The delicate rubber and silk digital-shaped sacs are secured to the rubber tube by means of strong linen thread, which is wound round the tube and securely tied over a metallic fitting inserted in the distal end of the rubber hose. The olive-pointed guide is used to carry the digital sac through the narrow opening bounded by the stricture. When once engaged, water, preferably warm, is forced into the sac by means of the pump. The sac above and below the stricture will expand to the limits of the silk covering between the rubber coverings. The stricture causes it to assume the shape of an hour-glass. At this juncture, if additional water is forced into the dilator, the entire pressure will be exerted upon the contracted portion, compelling the stricture to yield to the internal pressure. Graduated sizes may be used. The entire thickness of the tissue-rubber and that of the delicate silk used adds but very little to the diameter of the olive-pointed guide. He reports a case thus treated successfully.

41. **Gastric Surgery.**—Dunn believes that in case of cardiac obstruction, gastrostomy is clearly indicated, and when early recognized, pyloric obstruction also calls for exploration at least, and such subsequent measures as are indicated. In cancer a considerable percentage of cases are permanently cured by early and radical excision. The proportion of cures increases *pari passu* with the earliness of the operation and the thoroughness and skill with which it is done. In gastric ulcer, if severe symptoms continue after eight or ten weeks of careful, competent, dietetic and medical treatment, it is wise to counsel surgical interference, provided proper facilities and skill are available.

42. **Gastrosuccorrhea.**—Lincoln's paper is simply a description of this condition in its acute and chronic forms, its causes, symptoms and treatment.

43.—See abstract in THE JOURNAL of Dec. 23, 1899, p. 1613.

46. **Vivisection.**—Stuver discusses the advantages derived from vivisection, and criticises a recent hostile publication.

53. **Mild Types of Typhoid.**—Waters protests against the statement by Osler referred to Bartlett, that any or all of the usual symptoms may be absent in typhoid. He thinks that any one, two or three may be lacking, but there is no typhoid when there are none. He admits the occurrence of various types of typhoid and reports two aberrant cases.

56. **Prolapse of Uterus and Bladder.**—The improved operation described by Stone includes the following steps: 1. Incision of the vagina over the cervix. 2. Separation of the bladder from the uterus and adjoining tissues. 3. Suture of the vagina to a higher point on the anterior surface of the uterus; closure of the space made by the separation. 4. Opening of the abdomen and further separation of the bladder and suture of the reflexure to the scarified surface of the uterus near fundus; utero-fixation or suspension. 5. Closure of the abdomen. 6. Posterior colporrhaphy and perineorrhaphy.

60. **Nausea and Vomiting of Pregnancy.**—The following are the conclusions of Evans' article, embodying his theory here advanced: 1. There exists more or less of a rhythm in the paroxysms of nausea and vomiting in pregnancy. 2. There must also exist a rhythmic exciting cause for these paroxysms. 3. There is a rhythm in the contractions of the uterus which occur throughout pregnancy. 4. The essential exciting cause of the paroxysms of nausea and vomiting of pregnancy is frequently the physiologic contraction of the muscular fibers of the uterus.

61. **Anteflexion.**—From his operative experience, Burrage prefers dilatation, curetting and Dudley's operation in unmarried women in uncomplicated anteflexion. With retroposition and shortened utero-sacral ligaments or posterior adhesions he would also divide these by colpotomy. In either case amputation of the cervix may be performed if the uterus is very large or the crown of the cervix is extensively eroded. If in anteflexion, ovarian or tubal disease exists, with or without retroposition, it will have to be attended to and suspensio uteri be resorted to in addition.

65. **Choroiditis and Rheumatism.**—Converse speaks particularly of that form of choroiditis due to rheumatism, excluding that caused by syphilis. He thinks that examination of the urine will often aid us in finding the cause of the trouble, and proper treatment for the constitutional condition will give relief.

66. **Electrolysis in Disease of the Eyelids.**—Myers describes his method of treating granular disease by applying electricity to the supplying vessels of the granulation. He thinks this is the only method that will reduce the hypertrophies in the conjunctiva, without injury to that membrane. The current required is a very weak one, but to insure steadiness, a battery of not less than thirty ordinary ammonia cells should be used. A reliable milliamperemeter is an absolute necessity. A current of 1½ or 2 milliamperes is sufficient. The needle should be placed in the tissues, which must be well under the effects of cocain before the contact with the positive pole is made. It must be kept in place until the effect of the electrolysis is evident by the escape, from the sides of the needle, of a white pasty mass. Three or four punctures should be made in each hypertrophy, but the number required depends entirely on the extent of the thickened tissue. In eight years he has never seen a reaction result which could alarm the most timid operator, and has made as many as twenty to thirty punctures at a single sitting many times. He has treated hundreds of cases by this method and has almost altogether ceased to use copper and silver. He does not believe in the use of the flat electrodes on the granulations as he has seen scar tissue result time and again from this practice.

67.—See abstract in THE JOURNAL of January 27, p. 237.

75. **Melancholia.**—The treatment of acute melancholia consists largely, according to Babcock, in: 1, combating sleeplessness; 2, keeping the patient well nourished, and 3, when autointoxication is believed to be present, the use of laxatives and intestinal antiseptics. The impulse to suicide should be looked after carefully, and tonic treatment, exercise, and diversion should not be neglected. In agitated melancholia sedatives may be required and artificial feeding may be needed in any form. The prognosis is worse in the agitated forms. In stuporous cases the condition is more favorable, though feeding is often required and autointoxication must be specially looked for.

76. **Ocular Affections in the Newly Born.**—The subject of Krauss' paper is the catarrhal disorders of the conjunctiva, which are easily managed, and ophthalmia neonatorum, which is a more serious condition. Its treatment is, first of all, absolute cleanliness, and, by way of prophylaxis, the vaginal tract should be thoroughly cleansed with a 1 to 1000 bichlorid solution before labor is advanced. Later, solutions of 1 to 10,000 may be used to keep the tract clean. Immediately after birth, the exterior of the child's eye should be carefully cleansed with a weak bichlorid solution, which should later also be used in cleansing the whole body of the child. The conjunctival cul-de-sac should be thoroughly cleansed with a saturated solution of boric acid, freely applied by the physician. After thorough cleansing, one or two drops of nitrate of silver should be dropped into the eye. It is essential to keep the pupil free from pus, and the lids should be separated every half hour to allow its escape, and there should be free instillation of boric acid. Ice compresses should be used and Krauss employs a 2-grain atropin solution whenever the cornea is slightly hazy, and one twice that strength if the severe complication appears. If the destruction of tissue has not been too great, the everted lids are painted daily with a 2 per cent. nitrate of silver solution, as soon as the discharge becomes purulent, the excess being removed with boric acid or normal salt solution. A weak solution of potassium permanganate may be freely used, especially in the early stages.

86. **Cesarean Section.**—The experience of Reynolds has led him to believe that when conditions favorable to operation exist, Cesarean section is no more dangerous to the mother than any other simple abdominal operation. When, however, her vitality is lowered by sepsis, exhaustion, complicating disease, etc., it is only justifiable as a last resort. He tabulates sixteen cases with two deaths.

89.—See abstract in THE JOURNAL of Oct. 14, 1899, p. 979.

90.—Ibid., Oct. 21, 1899, p. 1042.

92. **Therapeutics of Tuberculosis.**—Flick considers the most important factor in the recovery from tuberculosis to be the resisting power of immunity, and whatever aids this makes for recovery; hence, the value of keeping the functions of the body normal and attention to its nutrition. The medicines he uses are strychnin, digitalis, animal and vegetable digestive ferments, mercury, nitroglycerin (in hemoptysis), mineral and fruit acids, vegetable tonics, bismuth, charcoal and diffusible stimulants. It is impossible to make a direct attack on the tubercular bacillus, but for the establishment of immunity, he thinks iodin the most valuable drug. Arsenic has had a reputation, but he is not able to personally testify as to its value, nor is his experience sufficient to enable him to pass judgment on the value of the nucleins or serum treatment, sometimes recommended. In conclusion, he remarks that we need more exact knowledge about the indications for the use of drugs in tuberculosis, and if we paid less attention to specifics and more to adjuvants, we would accomplish more in our struggle against the disease.

93. **Treatment of Tuberculosis by Drugs.**—Holland is skeptical as to the value of drugs in tuberculosis. In his opinion the best results are obtained by abundance of food and pure air, and he has abandoned the use of drugs.

95. **Phthisis Pulmonalis and Drugs.**—Schauffler discusses the various remedies suggested, and thinks that the drug treatment is overdone. He would not dispense with any of the time-honored remedies, but wishes to place himself on record as in favor of smaller doses and a much more careful suiting of the individual remedy to the particular case.

96. **Electrolysis for Aortic Aneurysm.**—Hare reports on a patient previously reported, and gives an account of a new one in whom the wire treatment was used on two occasions. In the second, with two applications, twenty feet of gold wire were introduced and left in the aneurysm. The results were excellent and the present symptoms are comparatively slight. He thinks it is the only case in which more than one introduction has been made into the same sac, and certainly the only one in which two operations have been performed at one sitting. The patient formerly reported died some months after the operation, from a second aneurysmal growth pressing on the lungs, and autopsy was refused.

105.—See abstract in THE JOURNAL of February 3, p. 296.

107. **Normal Position of Uterus.**—Robb describes and illustrates the position of the uterus under various conditions of full and empty bladder and rectum. He insists on the importance of keeping in mind the wide range of physiologic mobility of the organ before diagnosing malposition.

109. **Thermometer as a Germ Carrier.**—This paper insists on the necessity of a more than mere macroscopic cleansing of the clinical thermometer in daily use. The graduated marks and possible scratches and inequalities of its surface afford ample opportunity for the lodgment of germs, and as proof of this Conklin gives an illustration of these magnified 1200 times, together with a 6000-times-magnified bacillus of tuberculosis and of diphtheria. He also reports a series of experiments with six thermometers, four of which had been washed but not sterilized, and on which were found micro-organisms of different varieties. Two had been washed and placed in a case containing bichlorid solution and were found free from micro-organisms.

113. **Sterilization of Catheters.**—In this lecture, delivered before a school for nurses, Daggett mentions the possibilities of danger in unsterilized catheters and describes various means of asepticizing them. The method he prefers is, assuming that they are clean when used, after using and before he lays them down, to dip them into boiling or steaming water, then into odorless naphtha or gasolin. After the catheter is dropped into the latter the finger is placed over the distal end so that it is left partially filled, and then he inverts the instrument so that it runs out at the other end. Before putting it away this procedure may be repeated, and when satisfied that the catheter is clean, it should be rolled up in naphthalated gauze with an external wrapper of oiled silk.

115. **Care of Tubercular.**—Porter first notices the incipient signs of tuberculosis, especially long expiration heard at the apex of the lung, which may precede any other physical or subjective sign. The point he makes as regards the care is the necessity of preventing auto-infection by the destruction of the sputa. He thinks that much of the hectic or afternoon exacerbation is due to this form of auto-infection. He recommends, therefore, attention to the intestinal secretions. The second point he makes is that the heart should receive more attention. A small weak heart is the rule in long-continued tuberculosis, and he would add digitalis and strychnin to the medication, and believes he has prolonged life by this practice. As regards climate, he believes the best results have lately been obtained at home, and the special sanatorium will eventually take the place of the hunt for climate. Lastly, he speaks of the serum treatment, in which he has faith.

116. **Constipation.**—The causes of chronic constipation in women are neglect and the corset, according to Nicks. The non-medical treatment recommended is the cultivation of habit, the cautious, occasional use of enemas, suitable diet, sufficient water drinking, exercises to improve the movement of the blood and incite peristalsis, and massage.

FOREIGN.

British Medical Journal, January 27.

Remarks on Pure Air Treatment of Phthisis at Home. ARTHUR RANSOME.—The question of the home treatment of consumption, taken up by Ransome, includes the discussion of the questions of the climate, house and furniture, the individual treatment of the patient, and the prevention and treatment of accidents. Ransome thinks that any home where the outdoor, pure-air treatment is to be carried on should be protected from strong winds, and especially from strong sea breezes. He adds to this the importance of a low degree of humidity and a small rainfall. The house should be thoroughly disinfected, the cellar thoroughly cleansed, as impure air from the latter is often drawn up into the house. The walls should be capable of being cleansed and like the furniture surface, smooth, and all ornaments or crevices that may lodge dust be avoided. The necessity of excluding all pathogenic organisms is evident, as consumptives are especially vulnerable to these. As regards individual treatment of the patient, one of the first considerations is rest, which avoids disturbance of the inflamed tissues, facilitates warmth, conduces to the gain in body weight and aids the blood-making organs, increasing hemoglobin. It should be accompanied, however, with graduated exercise under medical supervision. The next important point is thorough nutrition. It is not a question of mere fattening, and passive exercise like massage may be combined with other treatment. All possible accidents, especially in the way of infection, must be guarded against, and not the least important of the requirements is diversion and suitable entertainment. He concludes with the statement that it is impossible to carry out all the stringent conditions of successful pure-air treatment except with constant supervision of a medical man and the services of a well-trained nurse or an intelligent trustworthy attendant, but he thinks that none of the conditions are unattainable, except in the homes of the very poor, and for these suitable sanitaria should be provided at the public expense.

Continuity of Toxic Process in Fatal Cases of Diphtheria. JOHN BIERNACKI.—The author has studied the blood-pressure in diphtheria and credits most of the fatal symptoms to its lowering. The gravity of the diphtheria may be explained in part by the diverse action of its toxins, which first cause a fall in the blood-pressure and next a change in certain tissues, of which the cardiac and renal are the most important. One result of the lowered blood-pressure is the lessened excretion of urine. As the urine contains the toxin, the latter accumulates in the blood and causes a further fall of pressure aggravated by heart failure. Sickness and diarrhea may take an active part in this process. He thinks that undoubtedly

toxic changes in the renal tissues to some degree affect its excretion, but that it is not a main factor. It is noteworthy that albuminuria is not always present in fatal cases. As to the question whether uremia may not be an intercurrent lethal factor, he believes that when the duration of the fatal case is short, oliguria supervenes and is followed by suppression. When, however, the patient is very near death, the latter condition can have but little effect if the fact that a healthy patient does not show symptoms of uremia until suppression has existed for at least two days is accepted. In prolonged cases, however, when suppression has lasted several days, the possibility of uremia is evident. One of its symptoms, myosis, is almost invariably present under such conditions. It is possible that the final aggravation of sickness has a similar source. On the other hand, the absence of headache, stupor, coma and convulsions is striking, and admitting that the uremic poison is complex, Biernacki suggests that it is possible that the specific toxin counteracts the effect of some of the elements, and thus maintains the continuity of primary symptoms.

The Lancet, January 20 and 27.

Some Points in Natural History of Uterine Fibroids. F. H. CHAMPNEYS.—The author gives a statistical study of the occurrence, symptoms and mortality of uterine fibroids in several of the London hospitals, and conludes that deaths from these, apart from operation, appear excessively rare. If the surgeon's practice is to operate only when life is threatened, the death must be credited to the disease; otherwise to the operation. The justifiability of the operation depends, however, on other conditions than those threatening life. They may produce conditions which make life unbearable: hemorrhage, pain, incapacity for work. There has been a confusion, he thinks, between operation for ovarian and uterine tumors; the natural tendency of the ovarian is to death and, therefore, operation is essential. A cystic fibroid should be treated as an ovarian tumor and so classed from an operative point of view. In closing his paper, he remarks on the too free tendency at the present time to remove fibroids, and says that in these cases we should put ourselves in the place of the patient when deciding on the operation."

Results Which Have Been Obtained by the Antityphoid Inoculations. A. E. WRIGHT.—This paper includes the results of antityphoid inoculations made in India in the end of 1898 and the beginning of 1899. The total number of soldiers inoculated was 2835, and these are compared with 8460 soldiers not inoculated. The statistics as regards cases of enteric fever and deaths from the same are in favor of inoculation, the percentage of cases among the inoculated being .95 and among the uninoculated 2.5. The deaths among the inoculated were .2, among the uninoculated .34. It should be remembered that the inoculated were men fresh in the country, while those uninoculated were older and more seasoned and less liable to the disease. Moreover, the inoculations were made in part during an epidemic of typhoid fever, and it is more than likely that in some cases they were made during the incubation stage of the disease. In conclusion, Wright mentions the possibility that antityphoid inoculations may afford a certain protection against malaria, and gives certain figures indicating this. In 121 men who had previously suffered from fever and ague, 111 declared themselves to have been quite free since, and the others said they were practically free six months after the operation. He suggests that in spite of the *a priori* improbability, this may be worthy of attention.

Plague in Relation to Singapore. MAXIMILIAN F. SIMON.—The facts as regards the introduction of plague into Singapore are related by Simon, who concludes that the experiences there up to the present date seem to indicate: "1. That plague is not readily transmissible by sea far south of localities in which it is epidemic or endemic, and that should it in later years spread more toward the equator, it will do so probably by slow extension overland, the germ becoming gradually acclimatized; 2, that when removed from endemic environment, the disease is not at all readily communicable from person to person; 3, that the danger of conveyance of infection by cargo and baggage for any distance by sea, at all events below what has been thought its boundary of latitude, is practically *nil;* and 4—but this indication I submit with a certain amount of diffidence—that, unless a patient has received a very strong dose of infection, or unless the morbid process in the body has reached a certain point prior to embarkation, when a patient leaves the infected environment and travels by sea toward the central tropical zone the disease has a tendency to abort. The bacilli either disappear in some way or become modified or inert, leaving the patient to gradually lose the fever which has been deprived of its specific exciting cause, and to recover from the glandular affection, which, having also lost the specific cause of its access and increase, tends to resolve in the same way as after ordinary inflammation."

Ciinical Lecture on Sleeplessness. WILLIAM H. BROADBENT.—After giving a definition that "sleep consists of a suspension of the functions of the higher centers of sensation, or rather perception, involving inaction of the corresponding motor centers," Broadbent remarks that its treatment does not resolve itself solely into a choice of drugs. To compel sleep by opiates or sedatives is not to cure sleeplessness. The drug induces a tolerance so that larger and larger doses are required, and its effects are not confined to producing sleep. One effect of all drugs is that they diminish the resistance and impair the manhood. The patient will not endure a deprivation of sleep which he formerly considered trivial, with fortitude. The author finds the effects of sulphonal and trional even worse than opium, and remarks that the introduction of syrups and tabloids containing them is very unfortunate. The essential preliminary in the treatment of sleeplessness is the recognition of its cause. Individuals vary greatly in their habits in this respect. Some are naturally bad sleepers, and such are greatly to be pitied. He would hesitate to give drugs, except an occasional dose to parry the effect of any unusual excitement or fatigue. If the pulse tension were high, chloral would be indicated, if it were low, paraldehyde or bromid. If sleep is unrefreshing, he would use bromids if possible, as they can be taken indefinitely without serious injury. He next notices the conditions of the circulation which interfere with sleep. Some patients suffer from cold feet, and rubbing is an excellent expedient for such. This may be due, however, to an exactly oppositive subjective feeling. Other conditions of the circulation causing sleeplessness are high arterial tension keeping up the cortical circulation, or low arterial tension, which may make sleep in a horizontal position difficult or impossible. The treatment here must be tonic. The most common cause of sleeplessness, however, is indigestion in its various forms, and he notices the special treatment of dyspeptic insomnia. One of the simplest methods for relief is to drink a tumbler of hot water at bedtime, but he would not even advise this as a routine practice. No treatment should be continued for more than a week at a time as the response of the stomach becomes imperfect. Tea and coffee are credited by some with causing sleeplessness, and he thinks it may be true to a certain extent, but less so than is popularly supposed. Afternoon tea, however, is a very common cause of flatulent dyspepsia, and in this way may be responsible for insomnia. Finally, he speaks of the sleeplessness from influenza, which must be treated as an acute infection, and unless there is speedy improvement under such tonics as arsenic, phosphorus, strychnin, and quinin, opiates may be given, and he would prefer a combination of these with carminatives to sulphonal, chloral, etc. The sleeplessness of alcoholic excess is mentioned; its treatment is total abstinence, with considerable doses of nux vomica or strychnin, and perhaps digitalis.

Process of Digestion After Resection of About Six Feet of Small Intestines. CARL SCHLATTER.—In the case reported, nearly two meters of the ilium was removed in a powerful, well-developed man 23 years of age, without any subsequent derangement of health while in the hospital, excepting an urticaria which appeared over his whole body the fifth day after the operation. The later history of the case, however, showed that serious disturbance of digestion and nutrition took place. The patient was obliged to be very careful of his diet, could take no solid food, and there has been a loss of three kilograms in his weight. Schlatter, accepting the dictum of Dressmann that resection of less than two meters of the intestines does not provoke digestive disorders excepting with complications, asks whether this case can be considered under this head. He says that the recent observation as to the late stage of the case may serve as a warning against too hasty or too

optimistic views regarding the effects of extensive resection of the intestines on the process of digestion.

Use and Abuse of Preservatives. SAMUEL RIDEAL.—This author reports some experiments similar to those of Dr. Annett on kittens, but with different results. He finds that a five weeks' old kitten could take, on an average, ½ gr. of boric acid, daily in its food, without seriously affecting its health. At the same ratio a child six months old could take 6 gr., which is about eight times the medicinal dose. Like Dr. Liebreich, he says that, regarding Dr. Annett's experiments in the most favorable light, they by no means prove that boric acid and formaldehyde are poisonous to young children, even in quantities largely in excess of those which would be possible in a milk diet under regulations (1 in 2000 boric acid and 1 in 50,000 formaldehyde and compulsory declaration) which he suggests.

Myoidema in Pulmonary Tuberculosis. HUGH WALSHAM.—The author notices a symptom first described by Stokes and later the subject of a monograph by Lawson Tait, which was considered by the latter as diagnostic of pulmonary tuberculosis. In consists in a quivering tumor caused by percussion on the pectoralis major, passing away in a few seconds. Walsham has never found it in an early case, and it only becomes well marked when the wasting has advanced beyond a certain degree. He concludes as follows: "I think that cases of pulmonary tuberculosis may be divided into three classes with respect to this sign, corresponding closely to the three classical stages of the disease. In the first class I should say that the sign was absent in the vast majority of cases, although a faint fibrillar contraction may occasionally be obtained. In the second class the fibrillar variety can always be obtained and frequently the nodular variety, and in the third class the nodular variety may nearly always be produced, with the exception stated above (in some cases of great emaciation). I think that myoidema is nearly valueless as an early sign of pulmonary tuberculosis. It only becomes well marked when other physical signs leave no doubt about the diagnosis of pulmonary tubercle. The sign is of value, I think, as indicating the condition of the muscular system of the patient and as showing approximately the amount of wasting that has taken place."

Archivos de la Policlinica (Havana), January 28.

Amblyopia From Malnutrition. E. LOPEZ.—Our Cuban confrère restates the facts in regard to the gathering of the rural population of Cuba into the garrisoned towns by the Spanish authorities during and after 1896, which resulted in a peculiar kind of anemia among the reconcentrados, from the lack of wholesome food, the ingestion of indigestible substances and wretched hygienic conditions. This slow and progressive anemia was characterized by partial or generalized edema, bloating, etc., and death without any special lesions, although malarial parasites were found almost constantly in the blood of the 300,000 victims of this inhuman decree. The anemia also affected the eyesight to such an extent that the condition was known among physicians as "blockade amblyopia," as it reached its highest point during the four months of the blockade of Havanna. It affected all races, sexes and professions, but was never observed in those under 20 years of age. Vision fell to one-third, one-fifth, or even to less than one-tenth of normal. The amblyopia was always bilateral, but with varying intensity in the two eyes. Most patients were restored to normal with a month of good food and tonics, but in two of the twenty observations cited by Lopez, the condition was permanent and no improvement could be noted with months of treatment. The pathologic picture is the same as with amblyopia from any cause: first congestion and then pallor of the optic nerve without alteration of the vessels, retina or any portion of the interior of the eye.

Revista de Med. y. Cir. (Havana), 1899, 18 and 19.

Peculiar Inguinal Adenopathy Observed in Havana. J. M. ESPADA.—The writer had six cases under observation at the time of his communication. The lesion might be described as hypertrophic and unilateral sclerosis of the inguinal ganglion. The first period of painless induration may last from a few weeks to twenty years. The ganglion is conglomerated into a single or two or three masses. The skin is intact and smooth. When it softens, the fluctuation is only in spots and the suppuration does not involve the ganglion matter proper. The softening is complete in a few days or weeks after it commences. When the lesion is opened very little pus escapes and the soft, friable, hypertrophied ganglionary matter is seen to the depths. Espada considers the suppuration a secondary process, the effort of Nature to expel the ganglionary matter which has become transformed into a foreign substance. Neglect may lead to secondary infection and suppuration, but when protected and the tendency to proliferation combated, the lesion heals over in a few days or weeks. The subjects are usually young working-men. A peculiar feature of the affection is that gonorrhea, syphilis or a traumatism may start its development, but it always retains its special characteristics and never assumes those of the concomitant affection.

Presse Medicale (Paris), January 24.

Original Classification of Fistulae of the Anus and Other Lesions. STOYANOV.—Visiting St. Mark's Hospital at London, which is exclusively devoted to diseases of the rectum and anus, the writer noticed a peculiar classification in use there, which he thinks might be usefully adopted for many other kinds of lesions. The field is assumed to represent a clock-face, and the lesion is located by the figures. A "3 o'clock lesion" would be directly to the right of the anus—the subject on his back, with limbs drawn up—the xii and vi being always vertical. A long sentence would be required to describe the location of a fistula, accurately described by "6 o'clock; 5 mm. from the limb.

Resection of Hip-Joint in Coxalgia. CALOT.—After being a partisan of resection of the hip-joint in case of suppurating coxalgia, Calot has become convinced that resection is useless and does not put an end to suppuration, while this not being suppressed, leads to secondary infection through the wound, and the death of the patient sooner or later, besides always leaving a distressing infirmity. For the past three or four years he has not made a single resection in his 250 cases, and his results have been satisfactory in every respect. He proclaims that a tuberculous focus must never be opened nor allowed to open, under any circumstances. If the patient arrives with an open abscess, resection should be avoided. The only case in which it is permissible is when continuous, threatening fever urges, and then the operation should be as saving of tissue as possible. Puncture with fine needles and injections of iodoformed ether and camphorated naphthol, constantly aiming to maintain the limb in a good position, is the method he has been following with fine results for the past four years. He has thus restored several patients with a fistula persisting since a previous resection by some other operator.

Treatment of Delirium Tremens with Artificial Serum. MASBRENIER.—Quénu has been treating delirium tremens for several years with subcutaneous injections of artificial serum, as not only a powerful tonic but a rapidly effective diuretic. Three observations are described in detail showing the prompt benefit derived from injection of a liter or 1500 grams of serum; no alcohol. The injections were repeated two or three times, although the excitement subsided after the first, as polyuria was established.

Adulteration of Sausages. H. MARTEL.—The writer is sanitary veterinarian of the Seine district and states that the adulteration of sausages has assumed very large proportions during the last few years. It consists in the addition of disinfectants, salt in excess, deodorizers and coloring matters; also of starch, flour, bread crumbs, etc. Tainted to putrid meat is also incorporated, and meat from animals killed on account of disease; also parts of the animal not usually used for food, and horse, cat and dog meat. Baucon stated, in 1895, that dog meat was being sold for mutton by some butchers.

Deutsche Medicinische Wochenschrift (Leipsic), January 18 and 23.

Arrow Poison. BRIEGER.—Analysis of the poison used by the Wagogos of East Africa, to tip their arrows, shows that it contains a rapidly fatal poison identical with the Wakamba poison which Brieger has previously described, the source of which is unknown, and also another poison derived from the candelaber euphorbium, which does not kill guinea-pigs in less than an hour. He suggests that as no vegetable antidotes seem to be known as yet, possibly serum therapy might supply antidotes to these poisons. (See "Syphilis of Spinal Cord," THE JOURNAL, February 10, p. 362.)

Dural Infusion. P. JACOB.—Clinical and experimental

tests of the subarachnoid infusion of therapeutic substances have been carried on at von Leyden's clinic for four years. The results have established that the fluid introduced in the lowest portion of the subarachnoid space spreads very rapidly to the cerebrum; also that if a certain amount of cerebrospinal fluid is withdrawn, and the same or a larger quantity of another fluid introduced, the substances dissolved in the latter remain for a time in the subarachnoid space, and are taken up by the substance of the central nervous system before they are finally completely eliminated. In none of the experiments and tests were any symptoms ever observed such as are induced by pressure on the brain. If any were noted at all, they were merely a rise in temperature and pulse, and more or less violent pain radiating from the back into the lower extremities. In a few cases nausea and vomiting occurred. A woman of 29, with severe puerperal tetanus after ten days' incubation, was treated the sixth day of the affection with 10 c.c. of Behring's antitoxin, introduced after lumbar puncture and withdrawal of about the same amount of cerebrospinal fluid. (The latter was not found at all toxic while tetanus was induced in mice with injections of a few c.c. of blood from the patient.) Two grams of Tizzoni's serum were injected subcutaneously at the same time. No improvement was perceptible, and the dural infusion was repeated twice, each time with .75 gram of Behring's antitoxin. Improvement was evident the next day, and speedy recovery followed. The only symptom noted from the infusion was a rise of temperature to 39.8 C., after the first infusion and a slighter increase after the second. Jacob reviews the experiences of others in this line, and asserts that further attempts are fully justified. He also reports three cases of cerebrospinal syphilis treated by dural infusion of 25 c.c. of a .04 per cent. solution of sodium iodid. One, a woman of 49, with indications of a gumma in the left hemisphere, showed considerable improvement for two days, but the coma returned and death ensued in three days. The two others were cases of myelitis luetica. The first, a woman of 30, was treated with a single infusion of 50 c.c. of a .05 per cent. solution of sodium iodid. Pains, headache, nausea and vomiting followed, but the complete ptosis previously noticed was permanently abolished. A peculiar feature of this case was the glycosuria that followed the infusion for three days. The paralytic phenomena subsided more and more until, in fourteen days after the infusion, exercise in the "walking chair" could be commenced, although the upper extremities showed less improvement than the lower. The other patient required three dural infusions before improvement was noted, each following an interval of one to two weeks. No glycosuria was observed in this case, and the other symptoms following the infusion were less pronounced with each repetition. Jacob considers these results so remarkable that they impose dural infusion of solutions of iodin in certain cases of cerebrospinal syphilis; when there is immediate danger to life and the necessity for bringing the therapeutic agent immediately and directly in contact with the region of the lesion; also in cases rebellious to the usual methods. He mentions that traces of iodin were observed in the fluid withdrawn fourteen days after the first infusion. He would also extend this method of treatment to meningitis, but has no personal experience as yet. He considers the symptoms which follow infusion due to the chemical irritation of the substance introduced. His experiments with dogs testify to the extreme sensitiveness of the substance of the central nervous system to chemical irritation: dural infusion in dogs, of 25 c.c. of a .2 per cent. solution of iodin, induced severe intoxication, while they had previously taken 2 to 5 grams a day *per os* without showing a trace of iodin poisoning.

Mechanical Support for Heart. ABEE.—THE JOURNAL has mentioned (xxxiii, p. 911) the truss devised by Abee to support the heart and relieve the distressing dyspnea in certain heart affections. It has proved very effective in twenty-nine cases. He finds that the heart is pushed up by the pad, as much as 2 to 3 cm., and twisted on its axis, and the lung expands 1.5 to 2 cm. downward on the right, while the pulse is retarded a maximum of ten beats a minute. These changes occur in two or three minutes after application of the truss, with consequent relief, but the previous conditions return as soon as the truss is laid aside. In one case intense pains persisted after pericarditis with *cor mobile;* the application of the truss abolished them completely. In another case, however, the heart truss increased the pain, probably owing to adhesions. The pad can be fastened to the corset or to a band around the shoulders aside at night or not, as desired. They should never be applied, or body. Some have been worn several months. They are laid Abee states, until after a certain consolidation of the heart has occurred. Among the patients benefited were 2 with aneurysm of the aorta; valvular insufficiency, 3; mitral insufficiency and stenosis 2; morbus Basedowii with left hypertrophy of the heart, 1, and the rest arteriosclerosis and myocarditis, with hypertrophy of the left ventricle. One patient writes that she has no further need for digitalis since wearing the truss.

Specific Immune-Serum Against Spermatozoa. MOXTER.—The summary of the research described in this communication from the Berlin Institute for Infectious Diseases, states that preliminary treatment of rabbits with spermatozoa from sheep, injected into the abdominal cavity, results in the production of an immune-serum destructive to spermatozoa in the animal organism, while entirely ineffective outside it. The spermatozoa are not dissolved, but paralyzed, and rapidly swallowed by the leucocytes. The immune-serum possesses also a specific dissolving power for the red corpuscles of sheep. The immune-body is fastened by the spermatozoa and the erythrocytes, but has greater affinity for the former. The immune-serum has also a transient agglutinating effect on sheep's spermatozoa. It also agglutinates the erythrocytes of sheep, but only when the hematolytic substance in the serum is removed or rendered inactive. Normal rabbit serum has also a destructive effect on spermatozoa, but much less than the immune-serum. This spermatocidal substance in normal serum is identical with the hematolytic.

New Copper-Silver Test for Mercury in Urine. F. ESCHBAUM.—The soluble metals recently introduced into therapeutics have been studied by the writer in respect to their elimination through the urine. He finds that they appear in the urine in the same way as ordinary metals, and ponderable amounts of mercury can still be distinguished six weeks after treatment. He has devised a simple and accurate method of determining the amount of mercury in the urine. It is attracted to copper—a net or braid of very fine, pure, copper wire—released again by heating in a small test-tube, and then accumulated on a small, thin, silver plate inserted in the tube, which is turned around until the plate has come in contact with the sides of the tube all around. Weighing the silver plate before and after determines the amount of mercury.

Wiener Klinische Rundschau, January 14 and 21.

Epiploitis Consecutive to Operations. J. SCHNITZLER.—Four personal cases are added to the twenty-four in literature, and all are tabulated, showing the particulars of the inflammation of the omentum in each. Only one death occurred in the whole number. The inflammation and tumor spontaneously subsided in eleven. The treatment was iodin or rest and ice. Silk threads had been used in all but one.

Pediatric Studies. W. CAMERER.—The weight and growth of 250 infants are tabulated in this communication. The tables show that the weight at the end of the first year depends more on the weight at birth than on any other factor. The growth is less during the first four months with artificial feeding, but this is compensated by the increased growth of the next four months and following weeks. Other tables show that after the rapid growth of boys during the first years, the increase falls off to about 5 cm. a year between the ages of 4 and 12, increasing again between 12 and 16 to 6.5 or 7 cm. a year, and stopping with the end of the seventeenth year. Girls grow 4 to 5 cm. a year between the fifth and tenth year, increasing to 6 cm. a year and stopping after the fifteenth. If the height increases after this age, this retarded growth must be referred to disturbances in growth which occurred during the period of physiologic development. Tables of the chemical constitution of the new-born show much more water and fats than in adults, and less nitrogenous elements. The total lecithin in the infant body amounted to an average of 16.51 gm.

Indication for Occupation Therapy in Functional Nervous Diseases. O. VOGT.—The occupation must be strictly individualized and is rather an element of hygiene for nervous persons, than a therapeutic measure. It will benefit whenever

the aim is to divert the attention from the *ego*, to satisfy the longing for something to do and to dispel depression, when these results are not accomplished by the present occupation of the subject. It is counterindicated in exhaustion, but it is sometimes difficult to distinguish between this and suggested fatigue. Imperfectly nourished subjects with pronounced insomnia are more liable to actual exhaustion, while the long persistence of the condition speaks against it. In case of akinesia alegra and hypochondria, occupation therapy has rendered but slight service in the writer's long experience, which includes observation in Binswanger's and Forel's clinics. It is especially beneficial for persons who have in fact recovered from neurasthenia, although psychically the symptoms still persist. Appropriate occupation may prove a most efficient means of curing severe hysteria and many cases of psychopathy, but it is merely a subordinate measure in case of fixed ideas, and is useless in nosophobia.

Iatrike Proodos (Syra, Greece), Oct., 1899.

Chylous Pleurisy. PANAGIOTATOS.—The writer describes a case of pleurisy with effusion, in which a milky-white fluid, obtained by puncture, contained 2 per cent. fat, 4 per cent. globulin and 9.7 per cent. albumin, with numbers of fat globules and leucocytes. Death soon ensued and the pleura was found much thickened with dilated vessels and polypoid outgrowths in which were found eggs of the Bilharzia in various stages of development. She is inclined to ascribe the case of chyliform ascites recently described by Ceconi to the same cause, the presence of the Bilharzia. (See THE JOURNAL of February 3, p. 300, for recent contributions on milky ascites, also p. 390, this issue.)

Gazzetta Degli Ospedale (Milan), Dec. 24, 1899, and Jan. 14.

Epidemic Pleuritis with Effusion. G. CIACERI.—Four cases occurring about the same time in persons residing near together, all running the same course and recovering with the same treatment, impose the epidemic character of the affection reported. The treatment was vesication alternated with painting with tincture of iodin; quinin in the morning and potassium iodid the rest of the day, with plenty of milk.

Pathogenesis of Suppurative Hepatitis. B. DE VECCHI.—Numerous experiments on dogs, guinea-pigs and rabbits showed that a pathogenic germ introduced into the liver would develop and induce the formation of an abscess in case of stasis of the bile, otherwise not. In physiologic conditions the liver resists invasion, and it only succumbs when weakened by any cause, such as obstruction to the flow of bile, which in turn affects the liver cell injuriously. The abscess may even be produced in case of stasis of the bile by introduction of germs into the intestines, afterward found in the liver. Connective tissue proliferation was also noted in the liver after introducing extremely virulent bacilli coli into the intestines.

Echinococcus Cyst of Pectoralis Major. G. PALMIERI.—The observation reported is notable on account of the entire absence of characteristic symptoms, merely radiating pains from the mamma, and apparently an incipient boil in the axillary region. But the fever rose alarmingly and an exploratory puncture of the supposed furuncle revealed its true character.

Rare Malarial Manifestation. GRAFFAGNINI.—The right kidney had been removed from a woman, 29 years of age, on account of nephrolithiasis, hemorrhage and pains, but an obstinate cystitis persisted for three years. At the end of this time micturition suddenly became painful, and the desire recurred every ten minutes. This continued for some time, slightly improved by copious ingestion of seltzer water, when blood was noticed in the urine in considerable amounts. The morning urine was clear, but every afternoon the hematuria recurred, much debilitating the patient; no other symptoms were observed. The periodicity in the appearance of the blood suggested a malarial origin, and the administration of quinin soon banished the phenomenon permanently.

Antiseptic Soaps. C. TONZIG.—Tests with disinfecting soaps—creolin soap in particular—disclosed that the disinfecting power is about the same as that of plain soap, or a trifle less, while the disinfecting substance in this combination loses its specific bactericidal power and becomes transformed into inert combinations. Pure soap, as free from water as possible, is the desideratum.

Meditsina (St. Petersburg), 1899, Nos. 24 to 30.

Articles Left in Abdomen After Operations. F. NEUGENAUER.—The damage suit against two prominent surgeons of Warsaw, for having left a forceps in the abdomen of a patient, mentioned in THE JOURNAL of Dec. 16, 1899, has led to the compilation of this article, which includes a number of hitherto unpublished cases. Many of the names mentioned are famous. Forty-two of the 100 patients cited died, generally from sepsis immediately after the operation. The articles forgotten were a sponge in 29, a tampon or compress in 28, a drainage-tube in 4, a ring, a clamp and a piece of a broken glass irrigator, once each; artery forceps in 19 and unknown in 17. In 3 patients two articles were overlooked. The arteria iliaca was fatally injured by a forceps in 1, the intestines were perforated in 6 and the bladder in 1. Most of the articles were discovered at the autopsy, but 2 sponges, 5 compresses and 3 forceps worked out through an abscess. Ten tampons or compresses were spontaneously evacuated *per anum*, also 3 forceps. In a number of cases the wound was reopened at once. The ring was extracted years later through the posterior vaginal fornix, and a tube through the Douglas sac.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.

Medical Society of the Missouri Valley, Hamburg, Iowa, March 15.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Medical Association of Georgia, Atlanta, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

Omaha Medical Society.—At a recent meeting, this Society elected officers as follows: president, Harold Gifford; secretary, J. M. Aiken; treasurer, W. R. Lavender.

Clearfield County Medical Society.—The following are the newly-elected officers of this Society, which met at Clearfield, Pa., recently: president, A. D. Bennett, Mahaffey; vice-president, B. E. Leipold, Clearfield; secretary, J. S. Kelso, Woodland.

Marion County Medical Society.—This Society held a meeting at Marion, Ohio, February 6, and installed the following newly-elected officers: president, Ambrose Ogan; vice-president, D. O. Weeks; secretary, E. O. Richardson; treasurer, O. W. Weeks.

Henry County Medical Society.—The annual election of officers of this Society was held at its meeting in Newcastle, Ind., recently, resulting as follows: president, George W. Burke; vice-president, Samuel Pickering, New Lisbon; secretary and treasurer, C. E. VanMater.

Chicago Medical Society.

Feb. 7, 1900.

LIGATION OF FIRST PORTION OF RIGHT SUBCLAVIAN FOR ANEURYSM OF THIRD PORTION.

DR. A. E. HALSTEAD reported a case of this and exhibited the patient, Mrs. F. W., American, aged 44, married. She was referred to him by Dr. J. E. Best of Arlington Heights, Ill. Her family history was negative. She had three children, the first two being twins; one died at the age of three months from some unknown cause, the other at 6 years, of diphtheria; the third lived two weeks. She had no miscarriages nor prema-

ture labors; no illnesses excepting the ordinary diseases of childhood, and diphtheria at the age of 19 years. She denied having had venereal disease, although she underwent treatment for some uterine trouble.

The present illness began insidiously, about nine months ago, without any known cause. She first noticed a feeling of numbness and tingling in the ring and little fingers of the right hand. After about three months she began to have cramp-like pains, referred principally to the inner side of the arm and forearm. This was soon followed by shooting and throbbing pains along the posterior surface of the arm and in the right shoulder immediately under the inferior angle of the scapula. These were at first paroxysmal in character but lately have become nearly constant so that her rest has been broken and her appetite impaired.

Examination showed a fairly, well-nourished individual, with a somewhat rapid and irregular pulse. Just above the right clavicle in the subclavian triangle was a tumor, more prominent when the patient was erect than when reclining. This was somewhat smaller than a hen's egg, globular in shape, soft and easily compressible. On palpation a well-marked expansile pulsation, synchronous with the systole of the heart, was felt, and on auscultation a distinct bruit was heard. The radial pulse on the right side was perceptibly slower and smaller than on the left.

An operation was performed Nov. 8, 1899, at the Chicago Policlinic Hospital, by Dr. Halstead, who was assisted by Drs. J. F. Best, F. S. Coolidge and P. F. Morf. A curved incision with the convexity downward was made, beginning just above the suprasternal notch and ending externally about 2 cm. above the deltoid tubercle of the clavicle, the lowest point being about 3 cm. below the clavicle. A flap consisting of skin, platysma, and fascia was reflected, fully exposing the subclavian triangle and the origin of the sternomastoid muscle. This muscle, with the sternohyoid and sternothyroid was divided, transversely just above the clavicle, and the internal jugular vein and carotid artery exposed. The carotid artery, the pneumogastric and recurrent laryngeal nerves were retracted outward, exposing the lower part of the scalenus anticus muscle. Close to the inner edge of this muscle, but considerably deeper, the vertebral artery could be located. The thyroid axis was found three-eighths of an inch external to the vertebral. This was traced downward until the subclavian was reached. The sheath of this subclavian was incised for a distance of about one-half inch just internal to the point of origin of the vertebral. An attempt was made to pass a ligature about the artery at this point. In doing so the posterior wall of the artery ruptured, giving rise to a profuse hemorrhage which completely obscured the operative field. Several attempts were made to pass the ligature, but as soon as pressure was removed from the artery the hemorrhage recurred. This necessitated the ligature of the artery some distance below the point of rupture, which could not be accomplished without resection of the clavicle. Accordingly the clavicle was divided about two inches from the sternoclavicular articulation, the sternoclavicular ligaments severed and the clavicle reflected downward. This did not seem to materially improve the situation, so the inner fragment of the clavicle was removed and with it the upper angle of the sternum. This gave ample room. The artery could now be exposed for a distance of about two inches from the internal border of the scalenus. All of the structures in relation to this portion of the vessel could be easily identified. Three catgut ligatures were quickly placed about the artery and tied, two of these being proximal, and one distal, to the point of rupture of the artery. The distal had to be placed very close to the vertebral artery. The two ligatures proximal to the point of rupture were placed about three-quarters of an inch apart, and were all tied so as to occlude the vessel, but not to rupture its coats. After the ligatures of the vessel had been completed and the operation wound sponged dry, the artery could be traced downward and backward for a distance of about three inches from the inner border of the scalenus anticus. In place of there being a common trunk, from which the carotid and subclavian were given off, the latter seemed to pass behind the carotid and come directly from the arch of the aorta. No brachiocephalic trunk could be seen. The relation of the origin of the subclavian to that of the carotid could not be determined. The divided muscles were sutured and the wound closed without drainage. The patient's temperature never rose above 99.5 F.; the pulse, which had, previous to the operation, ranged from 118 to 130, gradually dropped to normal during the first ten days. The skin sutures were removed on the fifteenth day, when the wound was found healed by primary union. The patient complained some of the arm and hand feeling cold during the first two weeks. The pain in the arm and hand, which was so annoying before the operation, completely disappeared, and there is no radial pulse, nor any return of pulsation in the aneurysm up to the present time—seven weeks after the operation.

Several points in connection with this case are worthy of consideration:

1. The aneurysm involved the entire third portion of the subclavian, and encroached slightly on the second portion, so that the only rational method of treatment was ligation of the first part.

2. The anomalous position of the subclavian vein, which was found above the artery throughout its whole course: Owing to this position of the vein, it was torn while endeavoring to retract it downward so as to reach the artery external to the internal jugular. As a result of this accident a considerable amount of time was consumed before the hemorrhage could be controlled by lateral ligation of the vein.

3. The anomalous origin of the right subclavian and the unusual depth of this vessel were for a time very confusing.

4. The possibility of having to resect the clavicle was considered before the operation. Dr. Halstead had determined to ligate the vessel without, if possible. He now considered it a necessary step and strongly recommends preliminary resection of the clavicle and a portion of the sternum in all cases. In his opinion it makes very little difference whether the portion of the clavicle which is resected is restored or not. In the case just reported the patient had an almost perfect clavicle at the end of six weeks although the inner third, together with the upper end of the sternum, had been removed.

5. The ligatures employed in this case were of formaldehyde catgut. The suggestion of Souchon, of applying two or three non-contiguous absorbable ligatures, should be followed in all cases. The ordinary surgeon's knot is all that is required. The ligatures should be drawn sufficiently tight to occlude the vessel, which can be determined by cessation of pulsation in the aneurysm, and not tight enough to rupture the arterial wall.

Probably the most important factor in securing favorable results in these cases is the preservation of an aseptic condition of the wound.

7. As regards the results so far obtained in the ligation of the first portion of the right subclavian, this case is, he believes, the second on record where the patient survived the operation.

ARTIFICIAL ANUS CLOSED BY SENN'S METHOD.

Dr. Halstead also reported and exhibited a patient operated on by him in September, 1899, for carcinoma of the rectum. Preliminary to the resection of the rectum he established a left inguinal anus, in order to deflect the flow of fecal matter from the rectum until the operation wound had healed. After that was accomplished, and as there was no evidence of return of the disease, the patient was anxious to have the fecal fistula closed. This was done Jan. 12, 1900, by the method advocated by Dr. Senn. After preparing the patient by washing out the colon, the abdominal wall was cleaned as well as possible. A circular incision was then made through the skin around the fistula. The skin edge was turned in, the fistula temporarily closed by interrupted silk sutures placed very close together so as to prevent any leakage of the contents of the gut. After this the field of operation was again prepared in the manner usually employed in cases where the abdominal cavity is to be opened. The gut was then completely freed from its attachments, the abdominal cavity freely opened and the loop of gut, in which the fistula had existed, withdrawn from the abdomen. The preliminary interrupted sutures were buried by interrupted Lembert sutures of catgut. After washing the loop of gut exposed during the operation, with sterile water, it was dropped back into the abdominal cavity and the wound closed without drainage, by means of through-and-through sutures of silkworm gut. No infection occurred: the

wound healed by primary union; the patient left his bed on the ninth day, and the hospital on the fourteenth day after the operation.

DISLOCATION OF EXTERNAL SEMILUNAR FIBROCARTILAGE OF RIGHT KNEE; REMOVAL OF CARTILAGE.

Dr. Halstead reported this case also: J. M. D., a male, aged 30 years, was kicked by a horse nine years ago, on the anterior and outer side of the right knee. The joint immediately became greatly swollen and very painful. These symptoms lasted for a month and then gradually subsided. The knee, however, never fully regained its normal condition. About one year after receiving this injury, while turning suddenly on the right leg, the patient felt a sensation as if something had given way in the joint. The knee again became swollen, painful, and remained so for several days. Since that time the same symptoms have frequently recurred, always after twisting the knee and usually after turning about suddenly. At times he could feel a small body projecting from the joint just external to the ligamentum patellæ, which would disappear with a click under pressure. The joint never became locked at any time. The knee appeared slightly swollen, measuring 1½ cm. more than the joint on the opposite side. A small quantity of fluid was detected on palpation. While the joint was extended, a defect could be felt just above the outer tuberosity of the tibia. Manipulation carried still further, particularly inward rotation of the tibia with the leg semiflexed, revealed a movable body occupying a position corresponding to the depression just described. There was considerable pain on pressure over this point at all times, and marked relaxation of the ligaments of the joint, permitting of an abnormal degree of lateral movement at the knee. Complete extension was impossible, even when considerable force was employed, and some atrophy of the thigh muscles was apparent.

Treatment.—Operation was done Oct. 24, 1899. After the usual antiseptic preparation, the knee-joint was opened by a longitudinal incision along the outer border of the patellar tendon. On opening the joint a considerable quantity of fluid—four to six ounces—escaped. Exploration revealed a piece of loose cartilaginous tissue corresponding in shape to the anterolateral two-thirds of the external semilunar fibrocartilage. A defect identical in shape with the detached portion was found in the fibrocartilage. After removal of the cartilage, the wound was closed by uniting the capsule and fascia with catgut and the skin with a subcutaneous silkworm gut suture. After the usual dressing was applied, the joint was immobilized by placing it in a plaster cast. One week later the wound was dressed and the suture removed. After this massage and active and passive movements were employed until function was completely restored.

The symptoms produced by dislocation of the semilunar cartilages are usually so characteristic that a diagnosis can be made at once. They are:

1. Locking of the joint in a semiflexed position. This may or may not occur when the cartilage is first displaced. It is caused by the cartilage becoming "nipped" between the articular ends of the tibia and femur in such a way that complete extension can not be made.

2. This condition of locking of the joint is associated with severe pain and rapid swelling of the joint, which are greatly relieved by reduction of the dislocated cartilage. Reduction may take place spontaneously or as a result of manipulation.

3. These attacks are always followed by a more or less acute inflammation of the joint capsule, with an effusion into the joint which may last for several weeks.

4. On examining the joint a deficiency may be found corresponding to the position of the anterior margin of the dislocated cartilage. This defect is frequently found for the reason that displacement of the cartilage inward is the rule. In a few cases the cartilage may be found projecting from the joint.

5. In recurring dislocations the leg can not, as a rule, be completely extended even under anesthesia. There is also found, in these cases, great relaxation of the ligaments, which permits of considerable lateral movement of the joint. In the case reported this was quite noticeable, as was also the increased length of the patellar ligament.

The first mentioned symptoms, particularly the locking of the joint and the acute synovitis following, may occur in any case of a movable body in the joint. The only positive differential point between joint-rice and detached semilunar fibrocartilage is to find the deficiency spoken of on palpation, or a body which in shape corresponds to the fibrocartilage. Again, it may be mentioned that abnormal folds of the ligamentum mucosæ or pedunculated bodies drawn into the joint may give rise to identical symptoms and can not be differentiated from the condition under consideration until the joint has been opened.

The treatment of dislocations of the semilunar cartilages can best be considered under two heads: 1. The treatment of those seen immediately after the displacement has occurred. 2. The treatment of chronic or recurring displacements. In the first class, when the patient is seen immediately after the accident, replacement of the cartilage should always be attempted. This can usually be accomplished. When it is replaced the joint should be immobilized and thus retained for two or three weeks. Following this, massage should be employed until the joint regains its normal state. In the second class, we have a great variety of methods of treatment. Many consider that these cases can be best treated by the use of a supporting apparatus to the joint; others recommend rest and massage, with subsequent artificial support of the joint by a mechanical apparatus. Without doubt, an apparatus, such as Shaffer recommends, that will prevent rotation of the tibia, will tend to prevent recurrence of the dislocation, but it is a question whether, in chronic cases, a fixation of the cartilage ever occurs under this treatment. The chief objection to an artificial support to the joint is that with it the relaxed ligaments seldom regain their normal tone. In these cases massage and rest are valuable adjuncts tending to restore tone to the ligaments, but can not affect fixation of the cartilage.

The rational treatment in all cases, when immobilization has failed, and in recurring dislocations, is to open the joint and either suture the cartilage in place or remove it, as is indicated in the individual case. In old cases, where the cartilage is bruised and inflamed, it is always best to remove it. In the more recent cases, when the cartilage is in a relatively normal condition, an attempt to suture it in place may be tried. No permanent disability results from the removal of one of these cartilages. After the operative treatment has been employed, it should always be remembered that the joint ligaments should be restored as far as possible to their normal state, by massage. In this connection may be mentioned the suggestion of Bennett, that strengthening of the tensor vaginæ femoris and the gluteus maximus is indicated on account of their connection with the iliotibial band, which is one of the chief agents in preserving the normal tension of the capsule of the knee-joint.

CASE OF COMPLETE RUPTURE OF QUADRICEPS EXTENSOR TENDON TREATED BY SUTURE OF TENDON.

DR. A. E. HALSTEAD and DR. J. BOURKE reported, jointly, this case. M. W., aged 50, a shoemaker by trade, was admitted to the Cook County Hospital, Jan. 1, 1900. On the day before admission he had, while walking rapidly, tripped on the sidewalk, and fallen heavily on the left knee. Immediately after he felt a severe pain in the knee, and was unable to stand on the left leg.

On examination, after his admission, the knee was found greatly swollen and very painful. The skin over it and from the middle of the leg to the middle of the thigh on the flexor surface, was discolored, from extensive ecchymosis. On further examination a complete transverse rupture of the tendon of the quadriceps extensor was found. The appearance of the limb was characteristic; the greatly swollen knee with a depression above the patella, and the fingers pressed into this depression could easily outline the condyles of the femur and the anterior surface of the lower end of the shaft. The patella was found of normal size and outline and freely movable. The retracted proximal end of the tendon could be located 2¾ inches above its upper border. There was complete inability to extend the leg.

Treatment.—The leg was elevated and an ice-bag applied to the knee. The swelling of the knee rapidly subsided and the pain disappeared. On the eighth day after the injury, after the usual preparation of the leg, the knee-joint was opened by a longitudinal incision extending from the middle of the patella

to 3¼ inches above its upper border. On opening the joint there was found considerable clotted blood. This was removed by washing out the joint with a normal salt solution. The quadriceps tendon was found completely divided about three-quarters of an inch above the patella, with the proximal end retracted 2½ inches. The lower uneven border of the tendon was trimmed off and the ends united by three mattress sutures of fine silver wire. The skin wound was closed by a subcutaneous suture of silkworm gut, and the leg dressed in complete extension and incased in a plaster-of-Paris cast.

No elevation of temperature nor rise of pulse followed the operation. The cast was taken off on the tenth day and the skin suture removed. The wound had healed by primary union. Massage and passive and active movements of the joint were immediately commenced and have been continued up to the present time. The patient can completely extend the limb and walk without any discomfort.

Rupture of the quadriceps tendon although not infrequent, is still of interest. Many of the cases reported in the literature were at first mistaken for and treated as fractures of the patella. In this case the patient was sent to the hospital with that diagnosis. It is difficult to see how the mistake could be made in a typical case, as the findings are characteristic: The hollow above the patella, which allows of direct palpation of the condyles and anterior surface of the femur, with a normal patella and complete loss of power of extension of the leg.

In those rare cases where there are abnormal cartilaginous or bony growths in the ruptured ligament, as in the cases reported by Wunsch and Kohl, these deposits might easily be mistaken for the upper fragment of a fractured patella. Measurements of the patella on the injured side and comparison of the same with those of the opposite patella will show the nature of the injury.

The mechanism of rupture of the quadriceps tendon is a subject of considerable interest. In some cases the tendon has been found to be the seat of pathologic changes which were sufficient to explain why only a comparatively small amount of force was required to cause a complete rupture. In this connection may be mentioned the cases before referred to of Wunsch and Kohl, in which bony and cartilaginous growths were found in the tendon at the point of rupture. As these deposits were bilateral and situated some distance above the patella, there seems to be no doubt that they weakened the tendons and predisposed to a rupture. In most cases there has been no variation from the normal noted in these ruptured tendons. We must therefore assume that in the case of a normal tendon the tear occurs while the limb is in a peculiar position in which the strain on the tendon is greatly in excess of what it is ordinarily subjected to.

As regards the manner in which these injuries occur, Maydl, after a study of sixty-one cases collected from the literature, in fifty of which the mechanism was noted, concludes that there is no evidence to support the hypothesis that the rupture occurs in a "stretched" muscle through the action of antagonistic muscles. He considers that in the majority of cases rupture occurs in an attempt to prevent a threatened fall, as when one trips while running and suddenly throws the body backward in order to check the forward movement of the body. In rare cases a sudden powerful contraction of the quadriceps extensor, as in jumping, may cause a rupture of the tendon. In other cases, sudden sharp abduction of the leg while it is partially extended with the quadriceps contracted may cause a laceration which begins at the outer border and extends toward the inner. In these cases the external lateral and the anterior crucial ligaments are also lacerated.

In all cases when complete rupture of the tendon has occurred, opening of the joint, removal of the clots and suture of the tendon is indicated. In case the environment of the patient is such that there would be great risk of infection in opening the joint, or when for any other reason an operation is contraindicated, the leg should be depressed in complete extension for from four to six weeks. In addition, an effort should be made to approximate the ends of the tendon by use of adhesive strips, or by a figure-of-eight bandage. Later, massage and passive movements of the joint should be employed.

DR. E. J. SENN reported two cases: one, a case of nerve suture one year after injury, the other a case of subtrochanteric amputation of the thigh for diffuse carcinoma. A report of these two cases will appear in a subsequent issue of THE JOURNAL.

RADICAL MASTOID OPERATION.

DR. J. HOLINGER showed three patients on whom he had performed a radical mastoid operation, done for chronic suppuration of the middle ear, which did not yield to any other treatment.

The first patient was a man of 21, operated on four years ago last April. The left ear showed the typical appearance of a dry cholesteatoma. The greatest part of the membrana tympani was missing, and the middle ear was perfectly epidermosed and dry. There was absolutely no reason for interference. The right was the one he operated on. An old chronic fetid discharge, which would not yield to the most careful treatment for eight weeks, was the indication for the operation. The roof of the attic and antrum was found covered with flabby granulations; the rest of the bone of the mastoid process was found as hard as ebony. The hammer and the incus were removed, and three weeks after the first operation under chloroform, the whole cavity, which was granulating nicely, was lined with epidermis. This procedure was done according to Seiffert's method, by scraping off the epidermis from the leg and smearing the mass over the whole wound. A skin flap was taken from the rear margin of the wound for the purpose of covering the posterior entrance of the opening. The result, as observed in examining the patients, was a large cavity comprising the middle ear, antrum, mastoid cells and external meatus, which is open behind the auricle and through the external meatus. The Eustachian tube is plainly visible in depth and causes a little annoyance through its secretions whenever the patient catches cold. The rest of the cavity is dry.

Cases 2 and 3 were similar in many respects to Case 1, the technique of the operation being practically the same, with slight modifications.

AUTOMATIC VALVE CLIP.

DR. J. RAWSON PENNINGTON exhibited inflating rectal speculа with detachable tubes, and gave a brief description of them. He also called attention to and exhibited a mechanical device known as an automatic valve clip, a description and cut of which appeared in THE JOURNAL of February 3.

Chicago Ophthalmological and Otological Society.

Jan. 9, 1900.

INTERSTITIAL KERATITIS.

DR. WILLIAM E. GAMBLE presented a patient illustrating this condition, a man, 43 years of age, who had previously had no trouble with his eyes, excepting twelve years ago, when he had "sore eyes" lasting about nine months; he was almost blind during that time; since then his eyesight has been good until the onset of the present trouble, which began about nine months ago. He has never had syphilis, but had muscular rheumatism seven years ago, and was never without gonorrhea when younger. Two children were born before his birth and both died in infancy. A sister younger than himself is healthy and never had any trouble with her eyes.

The present trouble with the right eye is interstitial keratitis. With the aid of the corneal loup the collapsed ciliary vessels were readily seen in the left eye, clearing up the nature of the disease that attacked the eye twelve years ago. The Doctor could not make out old vessels in the right eye, just recovering from an attack of interstitial keratitis. An examination of the fundus of this eye could not yet be made on account of the opacity still remaining. The fundus of the left eye showed a piling of pigment around the nerve head, temporal side, in extent much like the myopic crescent, with this difference, that the pigment seemed "piled up" and the outline was more ragged. The patient also showed a small amount of hypermetropia, but no other fundus changes in the left eye to suggest inherited syphilis, and no other inherited syphilitic facies were seen. The right cornea, when first seen was opaque in the most part, the whitish maculæ giving the appearance of connective tissue deposit, so much so that there was doubt as to the clearing up of the opacity.

The history of the case, as well as the present findings, fairly

made out a case of second attack of interstitial keratitis in the right eye, an interval of twelve years existing between the two attacks.

DR. CASEY WOOD said that some ten years ago he made a study of cases of interstitial keratitis at the Royal London Ophthalmic Hospital, and that from nearly one hundred seen there, he concluded that the disease usually occurs in children or in early adult life, and that one attack follows the other, more or less shortly. Instances are rare in which the disease has developed after an interval of a number of years, in the second eye, or where a second attack followed in a brief period in the same eye. He believes the Hirschberg vessels can be more plainly seen when the pupil is thoroughly dilated, and has found the corneal microscope of Dr. Howe an extremely useful instrument in such cases, even better, perhaps, than the Coddington lens.

DR. JOHN F. OAKS referred to the case as being due possibly to a specific cause, although there are other causes. Many cases of parenchymatous keratitis have congenital syphilis as their etiology, although in many instances such a history is denied.

DR. W. E. GAMBLE was surprised to see the small percentage of cases of interstitial keratitis ascribed to inherited syphilis. Michel says about 65 per cent. are due to inherited lues, while another author puts the percentage at 55. It is not always easy to ascertain the cause; his experience teaches him that a large majoriy of the cases are due to inherited syphilis. He thinks 90 per cent. are due to this.

DR. C. P. PINCKARD said that his experience had been similar to that of Dr. Wood. In his opinion less than 50 per cent. are due to syphilis, or, to put it another way, less than 50 per cent. could be proved to be syphilitic. A point in favor of the non-syphilitic origin of the disease is that many patients are but little benefited by antisyphilitic treatment. As a general proposition, his experience would lead him to state that internal medication is of little or no value, either in shortening the course of the disease or influencing the sequelæ. Local treatment is of the greatest possible value.

QUININ AMBLYOPIA.

DR. OSCAR DODD showed a patient with quinin amblyopia, admitted to the hospital two weeks ago. Four or five months ago the patient was not feeling well and a friend advised him to take some quinin with whisky. He bought twenty-five cents worth of the drug and a quart of whisky, put all of the former in a glass of the latter, and drank the whole of it at once. The result was that he slept for twenty-six hours, and when he awoke was unable to see. This condition lasted for two days, at the end of which time he was able to distinguish shadows. At the end of three weeks he was able to walk alone on the street. It was a little difficult to get a clear history as the patient does not speak English. At present his vision is 20/30 in the right eye, and 20/20 in the left. The fields are very limited. Great paleness of the discs is noticed on examination, presenting the appearance of optic atrophy. He had a severe tinnitus. He can hear the tick of a watch at twelve inches, at present. Tests with tuning-forks do not show affection of the auditory nerves. The case was interesting as showing the typical appearance which is described by a number of different men as quinin amblyopia.

There was only one point in the pathology which the Doctor desired to refer to. Holden has published an article in which he details the results of his investigations by the use of quinin in dogs. He says the pathology of amblyopia is this: A destruction of the ganglion cells in the retina, due to the ischemia from contraction of the blood-vessels from the effect of the quinin. At first there is a contraction of the blood-vessels, producing a severe ischemia, and this brings about the destruction of the ganglion cells in the retina, followed by degeneration of the optic nerve fibers. The point he desired explained was why the macular region should escape when all of the rest of the fibers are destroyed.

DR. C. P. PINCKARD asked as to the condition of the knee-jerks, and whether there were any symptoms of locomotor ataxia.

DR. O. DODD replied that the man's gait was undoubtedly due to the restricted fields; that as he walks along he looks down and watches for inequalities in the walk. He walks right, but if there are any inequalities in the walk he does not see them.

DR. CASEY WOOD stated that in several particulars the very interesting and unusual case exhibited by Dr. Dodd did not present the typical picture of quinin amblyopia. In the first place, the fields for white and colors are concentrically and regularly contracted when they are usually irregular. It must be remembered, also, that even in those cases where central vision is not greatly impaired the color fields are very greatly restricted. In the great majority of cases of quinin amblyopia, moreover, the vessels are reduced to mere threads, so that it is difficult to see them without the most careful search. In this patient the veins are very well shown, although the arteries are quite small. However, the patient has the typical white disc seen in cases of quinin amblyopia and presents such a consistent history of quinin poisoning with sudden and complete blindness in one of previous good vision, that there seems no reasonable doubt of the true character of the disease. As to the pathology of this form of intoxication, Holden, de Schweinitz, Brunner and others have made observations on dogs, and to them we are indebted for what we now know regarding the causation of the signs of the poisoning as it affects the eye. In an editorial by de Schweinitz, in the *Ophthalmic Record*, for December, 1899, he draws attention to the experiments of de Bono (*Archivio di Ottalmolgia*, 1894 and 1899), who sums up the various arguments for and against the central and peripheral theories in quinin amblyopia, and presents the following in their order, as the probable events in most cases of ocular cinchonism: Paralysis of the neuro-epithelium of the retina, manifest two hours after taking the poison. Then follows degeneration of the ganglion cells and nerve-fibers. This sets in on the third day and gradually increases. Lastly, degeneration of the optic fibers sets in as early as the seventeenth day, resulting in complete atrophy, not only of the nerves themselves, but of the optic tract. De Bono believes that the thrombi found in the central veins may account for the complete blindness noticed in many of these patients.

DR. O. DODD, in closing the discussion, said that de Schweinitz, in the new book of Norris and Oliver, agrees with Holden that the primary effect is on the ganglion cells in the retina, and that the optic atrophy is a subsequent effect. He said that he was undoubtedly mistaken in regard to it being an embolism of the central artery. In regard to the treatment, little has been done. In the history, the patient's word has to be taken as to whether or not his sight was good before this, although it bears out the history of similar cases which have been reported. There is such a wide variation in the symptoms and conditions in these cases that no one type can certainly be set down as being always the result of quinin amblyopia.

California Academy of Medicine.

January Meeting Held in San Francisco.

ULCER OF STOMACH.

DR. THOS. W. HUNTINGTON presented a paper reporting some unusual conditions in stomach surgery. The first patient had had poor health for some years prior to 1896, lost weight, had nausea, vomiting, etc. A provisional diagnosis of cancer of the pylorus was made. There was a resistant mass in the right epigastrium, over the pylorus, and no hydrochloric acid in the stomach contents. The stomach was dilated.

On operation, the pylorus was found enlarged and thickened. It was excised and 2½ inches of the stomach removed and the upper end of the duodenum attached to the anterior surface of the stomach. The button method was employed. More than two years after the operation the patient was quite well and had gained greatly in weight, and no gastric nor enteric symptoms ever appeared.

The specimen showed no malignancy. Two deep, active perforating ulcers were found in the mucous surface of the pylorus.

The second case reported occurred in a man of 42, with negative family history. October 23 he had a severe attack of diarrhea, coming on suddenly in the early morning, and he had to quit work. There was a history of obscure enteric trouble. Pain radiating from the umbilicus was complained of. On the following morning he suddenly fell into profound collapse, with temperature 95.5 F. and pulse 40. There was pain over the epigastrium and over the appendix. Perforating ulcer of

the stomach was thought of, but the symptoms pointed more strongly to explosion of the appendix.

Operation was done for appendicitis. Deposits of lymph were found on the cecum and colon, with evident chronic appendicitis, no rupture nor gangrene. The appendix was removed. The lymph patches followed up along the colon, and became more numerous as they ascended. The gall-bladder was healthy. A median incision above the umbilicus disclosed a round perforation on the anterior wall of the stomach. A small amount of stomach contents had escaped. The ulcer was infolded, the perforation closed, the abdominal cavity freely flushed, and a Mikulicz bag inserted through the median incision. The drain was removed on the sixth day and the wound healed readily by granulation. A culture of lymph was taken from the spot first seen, and yielded a negative result. In both cases an accurate and timely diagnosis of ulcer of the stomach was extremely difficult.

DR. DUDLEY TAIT pointed out that it has been indisputably demonstrated that the stomach may be, indeed, a source of danger, and that when it is thoroughly cleaned and kept clean, septic cases do very much better than when this is not attended to.

DR. BEVERLEY MACMONAGLE complimented the doctor in that, in the second case, he persisted in looking for the stomach lesion, when so few symptoms existed that would attract attention thereto after finding the appendiceal lesion. He recalled an operation for the removal of the ovaries and tubes, but a short time ago, which was well and cleanly done. Four days later, however, the patient died of septic peritonitis, and post-mortem revealed the fact that the cause of the septic peritonitis was a perforating ulcer of the stomach. The patient had some stomach trouble, but not more severe than an ordinary dyspepsia, and it had not attracted any attention. In the first case the result obtained was excellent. He said he would excise the ulcers, however, rather than remove the pylorus, if it were possible to determine the diagnosis. He asked Dr. Huntington why the duodenum was attached to the anterior rather than to the posterior wall of the stomach.

DR. WALLACE I. TERRY said, in regard to the sterility of the cultures taken from the sample of lymph, that the cause may have been that the culture-medium was bad. He has had some trouble lately at the City and County Hospital from this cause. Poor culture-medium failed to give any indication when he knew that the sample must be septic. Changing the medium gave a far different result.

DR. T. W. HUNTINGTON said that he was not familiar enough with the stomach and stomach contents to say whether or not the stomach secretions would have any antiseptic properties of value. He mentioned the fact to an excellent pathologist in the city, and he said that he thought it might have been due to the antiseptic action of the fluids mentioned. We have to choose between the belief that the fluid escaping from the perforation was sterile and a belief that the phagocytic action of the leucocytes in the peritoneal cavity was sufficient to preserve the abdomen free from infectious inflammation. For certainly there was no such complication following the operation.

DR. DUDLEY TAIT said that we know that inflammatory trouble of the appendix is often accompanied by some involvement of the intestinal tract higher up, and it seems reasonable to assume that the same organism produces both conditions, though it may be that one is the follower of the other. We frequently find sterile lymph in hernia sacs. This is the rule, in fact, unless there be an actual perforation. The gut may be almost or quite gangrenous, but if there is no perforation, the lymph will probably be sterile.

DR. G. CAGLIERI asked whether there were any signs of general infection, such as temperature, etc.

DR. HUNTINGTON said the temperature was 95.5 F. at the time of the shock, but rose to 99 at the time he went into the operating-room. In regard to Dr. Tait's remark, we certainly have much evidence of the fact that the colon bacillus is quite able to pass into the peritoneal cavity or into a hernia sac through the gut walls.

DR. HAROLD BRUNN said that it was quite possible for the stomach contents to be sterile, as the man had not taken food for some hours; owing to the large quantity of hydrochloric acid which the stomach secretes, the secretions may be assumed to be somewhat antiseptic in nature.

DR. T. W. HUNTINGTON said, in reply to the question of Dr. MacMonagle, that excision of the pylorus need not have been done in the first case, could the diagnosis have been made with certainty. Possibly pyloroplasty would have been better. At the time he could not be sure and concluded that removal of the suspected area was more desirable. The pylorus was very greatly thickened, was hard and brawny in feeling. It would have been very difficult to stretch it by dilatation. He reported the case to show that pyloroplasty may be followed by perfect functional activity. In regard to the place of attaching the duodenum, it was simply a matter of convenience. The stomach had enlarged in such a way as to bring its anterior wall almost in contact with the cut end of the duodenum, and it was not difficult to attach them. It would, however, have been a matter of some difficulty to take out a further portion of the stomach and attach the duodenum in the customary place.

DR. MACMONAGLE said that if the diagnosis of ulceration could not have been made, and the possibility of cancer was a formidable one, there can be no doubt that the proper operation was performed. He thought that, as the stomach was so enlarged, it might have been better to take out a portion, excise the ulcers only, and thus not run the danger of the enlarged stomach-fold acting as a flap and covering the opening into the duodenum.

DR. HUNTINGTON said he should not have cared to infold the stomach, for the reason that it would have been impossible to sufficiently dilate the pylorus. He has found that it requires a great deal of stretching, in the operation of Loreta, to secure proper dilatation. Out of four such operations that he has performed, he has had to make a second operation, as the first stretching was insufficient. He did not feel like taking out a portion of the stomach, as he had already performed a considerable operation and did not feel justified in prolonging it. He thought and still thinks that in these cases, when the stomach regains its proper function, it also regains, to a great extent, its normal relations. The result could not have been better in this case, for the man eats anything and is perfectly well. He has not and never has had any stomach symptoms since.

DR. TAIT asked Dr. Huntington whether he still uses the Loreta operation, as it seems to have been abandoned by many surgeons.

DR. HUNTINGTON answered that he does make use of it in certain cases, and thinks it an excellent one. He has operated on four patients by this method. In two, a second operation was required, for the first one had been sufficiently energetic. In the others he stretched enough at the first operation and no further interference was necessary. It is successful when the stretching is carried out to the proper point. It must, however, be thorough, or it will have to be repeated, as was the case in the first two operations he performed.

DR. TAIT—Would you also dilate for stricture of the rectum?

DR. HUNTINGTON—I do, and with perfectly satisfactory results; or rather, I divulse. A good strong divulser must be used and the operation carried out far enough.

HERNIA COMPLICATED WITH APPENDICITIS.

DR. DUDLEY TAIT presented a paper on this subject. The patient was a barkeeper with a previous history of no importance. On December 30 he tripped and fell on the stairs. There was immediate and violent pain in the right groin, and he noticed that an old oblique inguinal hernia had escaped into the scrotum and could not be reduced. He attended to his work all day, had pain all night, vomited at 2 a.m.; had an abundant stool at 8 a.m., tried to go to work that morning but had to go to bed. He ate a light breakfast and lunch, which caused no nausea. At 2 p.m. the hernia was about the size of the fist, movable, tense, painful to the touch, not tympanitic, and the overlying skin was not reddened. There was no nausea nor distension of the abdomen. Slight attempts at taxis caused intense pain. The pulse was 110, temperature 38.8 F., respirations 30.

A high herniotomy incision was made, and an irreducible but apparently non-strangulated hernia found, omental, with neither liquid nor gut in the sac. Concluding that this simple

condition could not be the cause of the grave clinical symptoms, the wound was enlarged by an incision extending 5 cm. upward, through the entire abdominal wall. Immediately about 50 c.c. of a dark, foul liquid escaped. A gangrenous, perforated appendix was removed in its entirety.

Dr. Tait desired to accentuate this fact on account of the practice of many surgeons in ligating the appendix. Complete removal should invariably be performed. No adhesions were present. The adjacent bowel was dark red in color, and was delivered and carefully cleansed. Drainage was by means of two rubber tubes 1 cm. in diameter, one placed near the stump and the other dipping into the pelvis. The present condition, twenty-four days after operation, is good. There is a fistulous tract 6 cm. in depth, admitting a drainage-tube .25 cm. in diameter; also a discharge of about 2 c.c. of pus daily but no infection at the site of the herniotomy.

DR. B. MACMONAGLE emphasized one point brought out, that we should cut out and not cut off the appendix. The method he uses is to raise the appendix, hold it with the thumb and forefinger and then cut through the base with scissors, leaving a hole in the gut, which is then closed. He has had no reason to regret this modification of the operation. Formerly he simply ligated, but has known infection to travel around the suture, with an unpleasant result. In the matter of drainage he holds, with Dr. Tait, that it is often difficult to drain with gauze. If one must drain, in any event, the drainage should be liberal. The greatest success comes from making the drainage at the lowest point. He therefore, often makes an opening, and a good liberal one, in the loin, and passes the gauze through it. It is easier to pass the gauze if it be first well impregnated with the Credé ointment. Another mistake sometimes made is to close the wound too tightly around the drain. If gauze be used and the wound is closed tightly about the gauze, secreted fluids can not be readily liberated. The mistake of closing the wound and removing the drainage too soon is not infrequently made. He has seen a number of cases in which there was no longer any apparent need of the drainage; a day or two later considerable discharge would be found to occur. In these premature removal of the drainage would have produced unpleasant consequences.

DR. HUNTINGTON said that no one can be certain of the best method of drainage, or the best method of dealing with suppuration. He has tried large and small rubber tubes; has used gauze and the Mikulicz bag; and with all and every method of drainage thus far suggested some cases do well and others do badly. There is more in the nature of the infection, the cause of the disease, the condition of the patient, his ability to with stand disease processes, etc., than in the kind or method of drainage employed. Certainly, if one does drain, he should drain thoroughly. He frequently makes the counter-incision in the loin and drains through that, and makes a liberal incision. In regard to dealing with the appendix, he has seen no reason to discontinue the method of tying it off in clean cases; in unclean ones it is certainly better to entirely cut it out. He has a dislike however, to opening into the infected bowel when it is not necessary. If the communication between the clean peritoneum and the unclean bowel can be maintained closed, he much prefers it, and he has had no reason to modify his views, for he knows of no infection ever occurring. He does not employ this method, however, when infection from perforation has occurred: then he entirely excises the appendix.

EXTENSIVE LACERATION OF CERVIX AND PERFORATION OF UTERUS.

DR. BEVERLY MACMONAGLE presented two specimens and gave their histories, one of which was as follows: A patient, 22 years old, married four years, gave birth to a male child nine months and nine days after marriage. Subsequently, between November, 1896, and June, 1899, she had three miscarriages. She was pregnant about three months each time. She said they were natural and that she resumed her duties, in each case, three days after the miscarriage. She was generally regular, but missed her period in November, 1899, and consulted her physician, who said that she was pregnant and had been for six months. The abdomen increased in size and she felt pulsation low down on the right side; her breasts enlarged. December 10 she commenced to flow freely and intense cramping pains in the right iliac region. The vagina was then packed and medicine given to relieve the pain. Premature birth was expected. At 10 a.m. the patient was given an anesthetic by a physician, who wished to dilate, and the Barnes bag and Goodell dilator were used repeatedly, but unsuccessfully. Hemorrhage was profuse and continuous. Opiates were given till the next day at 8 p.m. when attempted dilation was again unsuccessful. The Barnes bag was inserted at midnight December 12, and removed at 10 a. m. December 13. An anesthetic was given at noon the 13th and continued till 8 p.m. The physicians were then discouraged; the hemorrhage continued and the bad odor was increasing.

At midnight she was placed on a train and sent to this city, reaching here the next evening at 8 o'clock. The pulse was small and weak; respiration 28, temperature 100 F., with severe pain on the right side. There was vomiting and expulsion of gas by the mouth. She was unable to void urine, and her abdomen was much distended. The discharge was profuse, containing streptococci. The morning of December 15, the pulse was 130, temperature 103.

At this time I first saw the patient. It was decided to anesthetize, examine and operate if necessary. The first thing discovered was laceration on the left side of the uterus, extending from within the external up into the broad ligament it would admit three fingers. Examination through the abdomen was impossible on account of the extreme distension. The fundus could only be examined by fixing the uterus with tenaculum. It was then found that there was a perforation in the fundus. An elastic mass could be made out over the right Fallopian tube, extending up to the appendix. Blood and what appeared to be decidual membrane came from the cervix. The torn and infected uterus was removed by the vagina, and it was then found that the elastic mass on the right side was connected with the Fallopian tube. (The specimen shown was evidently a tubal pregnancy.) The patient slowly recovered and is now well and about.

CRUSHING INJURY OF HUMERUS AND ELBOW.

DR. G. CAGLIERI exhibited, among other specimens of interest, the upper portion of the humerus and the elbow of a man who had had his arm injured by a locomotive. The arm had been frightfully crushed. It was cleansed and the fragments wired, but bone disease progressed and the arm had to be removed in a few weeks, by disarticulation at the shoulder. The destruction of bone tissue was very great, and extended all the way up to the neck of the humerus. The lower portion of the humerus showed the very unusual intra-articular fracture without deformity.

Detroit Medical and Library Association.

Jan. 15, 1900.

DIAGNOSIS OF CHRONIC CATARRH OF STOMACH.

DR. CHAS. D. AARON read a paper on the above subject. He said that chronic catarrh of the stomach is a frequent disease and very difficult to diagnose. Most physicians, he said, seem to think that a diagnosis can easily be made from subjective symptoms alone, but this disease has symptoms in common with several gastric neuroses with erosion, with ulcer and with carcinoma. Even if a diagnosis of chronic catarrh of the stomach is positively made by exclusion, there remains to be determined a special form of it, there being four kinds, viz., simple, acid, mucous, and atrophic, which can not be differentiated without a repeated microscopic and chemical examination of the stomach contents after a test breakfast. He quoted Leube as saying: "We may content ourselves with the diagnosis of a catarrh of the stomach when we can exclude with some certainty other chronic difficulties which are attended by gastric disturbances." The Doctor thought that such a diagnosis would not be sufficient. The most experienced physician, he said, might easily be deceived. By chronic catarrh we understand an inflammation of the mucous membrane of the stomach, the membrane being the primary seat of the disease, muscular secondary. There are two kinds of chronic catarrh, parenchymatous and interstitial. We have the degeneration of the glandular cells combined with connective tissue proliferation, which destroys the function of the cells and lessens the secretion of the gastric juice. When masses of glairy mucus are found in the stomach contents, catarrh is present; when mucus is absent, there is not likely to be any inflam-

ation. Because of these, the ingesta are insufficiently digested and undergo fermentation and putrefaction. An analysis of the stomach contents will determine whether the motility of the stomach is involved or not. This, along with subjective symptoms, gives us valuable data. The lessened secretion of hydrochloric acid is not typical of catarrh, for this may occur also in necrosis, but the presence of increased quantities of mucus as well as a reduction of the secretion of pepsin, and especially of rennet indicates chronic catarrh. In simple chronic catarrh, pepsin and rennet are decreased; free hydrochloric acid is decreased or absent, combined hydrochloric and erythrodextrin present. In chronic mucous catarrh, pepsin and rennet are absent, while the pro-enzymes, pepsinogen and rennet-zymogen are present; free hydrochloric acid is absent, also combined hydrochloric acid, very much thick glairy mucus is present. In chronic atrophic catarrh, the ferments, pepsin and rennet, the pepsinogen and rennet-zymogen are absent; free and combined hydrochloric acid also. Milk will not curdle in the stomach. In chronic acid catarrh, pepsin and rennet are present in larger quantities than normal; hydrochloric acid is decreased; large quantities of mucus are present.

Louisville Society of Medicine.

January Meeting.

ELECTRICITY IN DISEASES OF WOMEN.

DR. RICHARD T. YOE presented a paper on this subject. It takes less time to treat a patient with the knife than with electricity; the fees for the later method are much less. The essayist detailed the anatomy of the internal generative organs, and said that to Apostoli is due the credit of improving this great therapeutic agent in its many details. To receive the best results there are several requisites; a good galvanometer is the first. As great care should be taken in the selection of the battery as the galvanometer; a good sound for intrauterine work should be selected, of any metal if the negative pole is used, otherwise it will corrode, the positive pole corroding all metals but platinum, gold and aluminum. The Apostoli clay pad or the Martin pad is to be preferred for the cutaneous pole; the connecting wires should be carefully taken care of and kept perfectly straight. Individual cases require different currents, but as a rule the negative pole is placed in the uterus, the positive pole on the abdomen. From 150 to 200 milliampéres are used; less than 100 is too weak. The current is allowed to flow from one to ten minutes, then is gradually turned off. Among the pelvic disorders influenced by electricity are metritis, endometritis, dysmenorrhea, metrorrhagia, subinvolution, cellulitis, ovaritis, salpingitis, cancer and fibroid tumors. Electricity produces a form of interstitial massage, and causes better circulation and absorption of inflammatory material.

DR. J. ROWAN MORRISON said that the subject is still under investigation, and electricity is not a panacea, but often a good remedy. In pelvic exudation and subinvolution of the uterus absorption is stimulated by the current, which acts similarly to the hot water douches in the same conditions.

DR. EDW. SPEIDEL, in one of the large clinics in New York, where much of this work is done, was told that the results had not been encouraging after a year's trial. Because of the necessity of having extensive apparatus for its proper administration, the treatments must be at the office, where the proper aseptic conditions are not possible to obtain before a tube is introduced into the uterus.

DR. W. B. GOSSETT said that the profession should welcome anything that would lessen the unnecessary operative work on women. Often because of their dread of operative interference they do not consult physicians until much too late for any other treatment than operative. They should be educated to the fact that much can be done besides.

DR. R. A. BATE indorsed the views expressed by the essayist, and said that any means that would cause less of the needless unsexing of women should be welcomed. With the use of ovarian extract many of the cases formerly considered operative can be relieved.

DR. J. W. GUEST had seen much more adhesion in those patients in whom electricity had been used than in those not so treated.

DR. T. E. CONVERSE had only seen one case so treated, but there were good results.

DR. W. O. GREEN said that while electricity in the arts and sciences has taken enormous strides in the past two decades, in medicine it has not kept pace with the other branches. The reason for this is probably the fact that surgery has taken such enormous strides that it has outstripped electricity; and often the use of the knife is a so much shorter method that it is preferred by the patient. The text-books usually simply state that "electricity can be used," but give no description as to the details of the procedure. He said it was no uncommon occurrence to see the pseudo-electrician go about with what he is pleased to call his "pocket-battery," consisting of a small cigar box containing a coil resembling a spool of black sewing thread, two cords dignified as cables, and one cell. He suggested the following as the best appliance for scientific work. A battery, for galvanic current, of not less than forty cells, a current selector, rheostat and milliampéremeter. For the induction apparatus there should be coils of definite sized wire of definite length, definite number of winds and definite amount of resistance, each of which should be familiar to the operator. The primary coil should be in the same way with a rapid, slow and contact interrupter.

DR. J. L. JOHNSON stated that the results in the use of electricity in the past had been disappointing. He did not see how the claim that new adhesions could be formed by its use could be substantiated, as it would have the effect of removing adhesions by absorption. In the treatment of fibroid tumors, electricity is fast becoming a back number. In endometritis of specific origin electricity would have no effect as a germicide, and it is his opinion that it should have no place in gynecology.

DR. R. T. YOE, in closing the discussion, said that men prominent in the profession in New York and elsewhere are still using electricity in their gynecologic practice, and they would not be if they did not get good results. A woman is always happy if she can be treated without the use of the knife.

Johns Hopkins Hospital Medical Society.

Baltimore, Md., February 5.

EMPYEMA OF ANTRUM.

DR. W. B. PLATT exhibited an infant with chronic empyema of the antrum, existing since birth. There were fistulous openings discharging pus under the eye and in the mouth. Pus was also discharged from the naris. There was no specific history. He was inclined to think that there might have been infection, at birth, through the nostril. A tooth was drawn and a means of drainage thus effected, after which, with boric acid washings, the case improved.

INHALATION METHOD IN PULMONARY AFFECTIONS.

DR. C. A. PENROSE read a paper on "Treatment of Pulmonary Affections by the Inhalation Method." His results had been striking in catarrhal and pneumonic conditions, cases of many years standing being entirely relieved in a few weeks, after having been treated in vain by many physicians. He excludes internal treatment, so that the results appear to be referable solely to the local measures. He limits himself to no one antiseptic, using various agents, creosote compound, tincture of benzoin, etc. He has invented a tin inhaler for the poor to use at their homes, and he also employs the Burney-Yeo mask. With the antiseptic inhalations, he combines inhalations of oxygen. But this appears to possess antiseptic virtues also and is most efficient if given combined with moisture. The effects of this method of treatment in phthisical conditions has not yet been determined, but from the rapidity from which pus and other organisms disappear and lesions clear up, it is possible that similar influence may be exerted on the bacillus tuberculosis and its consequences.

FIBROID TUMOR OF THE UTERUS.

DR. RUSSELL described a myomectomy for a fibroid tumor of the posterior part of the uterus. The patient was 24 years old, was pronounced pregnant by three physicians, and her appearance resembled that of a pregnant woman at seven months. A laparotomy was done and the tumor was dissected out. As the organ was still enlarged beyond the normal, a large piece of the healthy tissue was also removed, so as to bring it to something like normal size. Hemorrhage was profuse, but was controllable by mechanical means.

Dr. R. also spoke of the most recent and radical operation

for carcinoma uteri. It is a vaginal hysterectomy and is applicable only to those who have borne children and have a large vagina. It involves a very wide dissection of the parts, including parts of the broad ligament, the mucous membrane and the upper part of the vagina, diseased glands, etc. He also referred to the possibility of artificial infection, sometimes seen at the site of an ulceration in the posterior cul-de-sac of the vagina, as the result of wearing a pessary. In one case Dr. R. removed a small cancerous nodule in the lower part of the vagina in a woman who had an adenocarcinoma of the uterus. The histologic characters of the two growths were identical and the supposition was that some prick had been made with the knife or needle at the seat of the vaginal nodule.

Philadelphia Neurological Society.

Jan. 22, 1900.

CONTRACTURE OF HAND.

DR. A. FERREE WITMER presented a case of extensive contracture of the hand following hemiplegia. At the onset of the hemiplegic attack, the patient was unconscious for three days. In the hand there was but little wasting, and he was able to move each finger easily. The sensation was normal but marked contracture existed, giving rise the so-called "claw hand."

DR. WM. G. SPILLER said he saw the patient soon after the onset of the hemiplegia, and he was certain it was of organic origin.

NEUROTIC ATROPHY.

DR. F. X. DERCUM presented two cases of primary neurotic atrophy, the first in a man past middle life, who years previously suffered with pain in the right leg; and later, pain in the left; several years later, pain in the arms. Two years ago the gait became of a "stoppage" character. On one side, foot-drop was noticed. The knee-jerk was exaggerated. The foot was arched to a high degree. Evidences of the disease also existed in the upper extremity, and slight waist-drop was observed. As in the toes, there was a tendency toward flexion of the distal phalanges. There were no sensory changes.

TROPHIC CHANGES AND SUPRAORBITAL NERVE.

DR. A. J. MCARTHUR reported a case of trophic changes following injury of the supraorbital nerve. The patient was a young lady who, nine years ago, was struck on the head, above the ear, by a brick. Soon after the injury an area of anesthesia existed in the parts supplied by the nerve in this region. Trophic changes also occurred about the eye, and the brows and lashes both became white and have persisted. Over this area sweating never occurs, but does on the opposite side.

DR. WHARTON SINKLER thought that these symptoms might also be observed in certain cases of ophthalmic migraine.

PARESTHETIC MERALGIA.

DR. D. J. MCARTHUR also presented a case of this combination, of five years' duration. The patient was past middle life. The onset was marked by pain in the right leg and later in the left. There was decreased sensibility to the faradic current. Over the anterior and central areas of both thighs areas of hyperesthesia existed. The etiologic factor which might have produced the condition was the wearing of a closely fitting double truss, and it may have so compressed the nerve in this area that trophic changes resulted.

DR. W. G. SPILLER said he saw the patient some time ago, and was much interested in the question of operation in similar conditions. In those cases operated on, good results have resulted.

PARALYSIS AGITANS.

DR. W. G. SPILLER presented a man with hysteric tremor of paralysis agitans. He was 65 years of age and gave a family history of similar tremors. Ten years ago he began to suffer with tremor of the head. On examination no focus of Parkinson's disease could be found. There was no sensation of excessive heat, and the patellar reflex was not exaggerated. The character of the tremor of the hand could be changed by suggestion, showing that hysteric manifestations were present.

RHIZOMELIC SPONDYLOSIS.

DR. A. A. ESHNER reported a case of this affection. His paper will appear in THE JOURNAL.

Cincinnati Academy of Medicine.

Jan. 22 1900.

ACROMEGALY.

DR. KENNON DUNHAM read a paper on this subject and presented a patient, Mrs. W., 31 years of age, of German parentage, but herself born in America. Her father and mother are well and strong and show no anatomic peculiarities. Her father's parents both had very long fingers, but, from the pictures, were in no way acromegalic. The patient herself was well and strong until about 21 years old, when a severe attack of typhoid fever kept her in bed for six weeks. Two months later dark spots began to appear before her eyes, and finally, while at work, she became temporarily blind. An oculist was consulted, and pronounced the case one of cerebral abscess. This was not concurred in by the physician in charge and the patient, not being relieved of the headaches, of which she bitterly complained, passed from one doctor to another. She was married at 25 and after a few months began to take on flesh quite rapidly. The hands and face became swollen, the abdomen enlarged, eyes puffed, and menstruation ceased on the seventh and eighth month menstruation was present and, the abdomen not being sufficiently enlarged for a pregnancy of the date, abdominal examination showed that a mistake had been made and that she was not pregnant. Menstruation has never returned since that period.

When she was 27, her husband, after a long illness, died of pulmonary tuberculosis. It was just before his death that Dr. Dunham was consulted. Anxiety and long-continued nursing on the part of the woman had caused marked anemia, and the headaches had grown much worse. The swelling of the hands, feet and face had subsided, though the nose was still large, but as he had not known the woman previously this latter was not significant. He treated her for some time for anemia. A consultation was held, antisyphilitic treatment recommended and pushed for some time with but temporary improvement. The headaches then returned worse than before, and even morphia had but little effect in relieving them. The patient then passed out of his hands, and he did not see her for 2½ years. Marked change had taken place during that interval, proving her an acromegalic beyond doubt.

The following conditions were readily recognized on the patient being presented: The hands were much hypertrophied, thick and wide, but not long, all the tissues being uniformly enlarged. The skin of the hands was not edematous nor hard, nor was it pigmented or dark, nor were the lines deepened, as often described; but the face showed the lines deepened and pigmentation quite markedly. The fingers were as thick at the distal as at the proximal extremity, but were not clubbed, while the nails were widened, and comparatively short. The fingers might well be called "spade-like." The function of the hands was not destroyed. The wrists were enlarged, but not proportionately with the hands. The feet were hypertrophied, but not so much as the hands, and the enormous enlargement of the big toe, so commonly described, was wanting. The external occipital protuberance and the condyles of the lower jaw were enlarged, but only to a slight degree. Photographs, taken when she was 15, 20 and 25 showed how great has been the distortion of the nose during that period, and also the other characteristic changes in the face. The alveolar processes were very much enlarged, markedly separating the teeth, though the latter were themselves unchanged. The eyelids were much thickened, the ears hypertrophied, the lips thick, and the face much elongated, particularly from below the nose. The tongue was thick and broad, but not protruding, and not interfering with deglutition or articulation. The hair was very coarse, especially on the crown of the head. The turbinated bones were very much hypertrophied, the larynx enlarged, giving a low-pitched, masculine quality to the voice, very striking to those who knew her before the onset of her present trouble. Cervicodorsal kyphosis with its corresponding lordosis was marked. The spinous processes of the vertebræ were enlarged, as were the sternum, clavicles, ribs and costal cartilages. The chest was broad and rather flat, from the great enlargement of the clavicles. The mammæ the essayist described as partially atrophied, the abdomen large and pendulous, the uterus small and the external genitalia but slightly increased in size. Respiration was abdominal, the neck short and thick, depending

largely on the kyphosis. The thyroid showed no clinical changes. The ligaments of the knees were partially relaxed, and that crepitus was easily obtainable. Electric excitability was normal, and perspiration excessive.

Blood examination showed the reds to be increased in number, in spite of the apparent anemia, the whites about normal, the polynuclears diminished, the mononuclears increased, and eosinophiles absent. The urine was normal on chemical analysis, but the amount somewhat diminished. The patient has been growing more and more melancholy and irritable, but her intelligence is unchanged. The viscera are apparently normal.

As his own view of the etiology, the speaker stated that whatever the original cause might be, he believed disease of the pituitary body necessary to the development of acromegaly.

DR. D. T. VAIL said that the ocular symptoms of acromegaly were due, not to a disturbance of function of an enlarged and diseased pituitary body, but to entirely mechanical causes. Bearing in mind the close proximity of the pituitary body to the optic chiasm, it can be readily seen that any enlargement of the former would be very apt to press first upon the posterior part of the chiasm. In this part of the optic chiasm are situated the decussating fibers from the nasal half of each retina, and also, but a little more anteriorly, the decussating fibers from the macula lutea. Destruction of this portion of the chiasm would naturally, purely from mechanical causes, bring about blindness in both temporal fields, a bitemporal hemianopsia being in itself sufficiently infrequent to attract attention to the optic chiasm and the structures in its immediate neighborhood. Involvement of the fibers from the macula lutea would cause loss of central vision, a large central scotoma. Both of these very prominent symptoms were present in the case of acromegaly presented.

DR. JOSEPH EICHBERG showed, under the microscope, slides from a normal pituitary body and from one affected with carcinoma. Since the publication of Marie's noteworthy paper, the pathologic conditions have been studied by various observers, but nothing of importance has been added to the first outlines of the disease that he laid down.

Cleveland Medical Society.

Jan. 26, 1900

FOREIGN BODIES IN MAXILLARY SINUS.

DR. RALPH J. WENNER read a paper on this subject. He said that text-books give little attention to the subject of foreign bodies in the antrum. To determine their relative frequency, 250 letters were sent out to men interested in this line of work, and it was found that in 68 of 3409 cases, or 2 per cent. of antral disease, foreign bodies were present, but in many were not the cause of the disease. In 30 cases, less than 1 per cent., the foreign bodies were the cause of the antral disease. In 14, 7/11 of 1 per cent., teeth were found. It is evident that the presence of foreign bodies does not invariably cause empyema. His patient was aged 3½ years; the illness began with purulent discharge from the nose, followed by bulging of the left eye and the left roof of the mouth. Acute empyema of the antrum being deemed probable, hot fomentations with the administration of belladonna and strychnin were used, and reduced the amount of discharge and the prominence of the eye. The patient passed into other hands for a month. The condition was then more grave, with increased discharge from the nose, swelling of the face and eyelids, purulent conjunctivitis and keratitis; temperature 101 F., and pulse 150. The right arm was not moved except under the stimulus of pain. Cavernous sinus thrombosis, empyema of the sphenoidal sinus and of the ethmoid sinus were excluded. Pus and a tooth were found in the left antrum. The eye was enucleated. Another tooth was found later. A growth in the roof of the mouth increased rapidly in size, and death finally occurred. The growth proved to be giant-celled sarcoma.

DR. H. G. SHERMAN said that at the time he saw this patient the conditions were even more exaggerated than Dr. Wenner had described. The eye was greatly bulged, as were also the hard and soft palate and the lateral area of the throat. The temperature at that time ranged from 101 to 104 F., and the child had had a series of convulsions. It was entirely unable to move its right arm and right leg, even under the stimulus of pain, and he had regarded the case as one necessarily involving the cerebrum about the base of the lateral lobe near the fissure of Rolando. The antrum in a child of that age is very rudimentary, and he could scarcely comprehend how it was large enough to hold a tooth, as it is a space not capable of being distended without rupture. The child having then been unconscious for some ten days, he gave it as his opinion that the case was entirely inoperable. The tooth that had been removed was a most extraordinary one, as it had four prongs. The case could be diagnosed as one of cerebral abscess, or as an almost typical case of disease of the cavernous sinus.

DR. C. J. ALDRICH asked which side was paralyzed, and Dr. Sherman replied that it was the side opposite to the point involved.

DR. J. M. INGERSOLL was particularly interested in the number of cases from which reports were obtained in response to the circular letter, showing that foreign bodies occur in the antrum more frequently than is usually supposed. He had himself seen three cases in the last three years. He had seen at least a half-dozen adult skulls with supernumerary teeth in the antrum, that had apparently caused no trouble, and one case of polypus in the antrum, its discovery not being made until necropsy. Such cases may very readily be overlooked, and sometimes they cause no trouble at all. He thought it was a question whether the tooth was the primary cause of the trouble in Dr. Wenner's case, or whether the teeth had not become necrotic and kept up irritation in the antrum.

DR. J. N. LENKER said that he was present at the time when Dr. Wenner removed the teeth from the antrum, and was even then surprised at the smallness of the sinus when compared with its contents.

DR. WENNER said that the parents had not given him any statements of the child having had convulsions, until after the administration of the anesthetic, even when questioned closely. While it is true that the antrum is usually small, it is also true that the kidneys are usually small, but we not infrequently find both large-sized and horseshoe kidneys. The leg was not paralyzed during any of the time he had the patient under observation, and the child was able to move the arm under the stimulus of pain. He thought that Dr. Sherman had been misinformed in regard to the child being unconscious for ten days. He said he should not be held responsible for the size and shape of the teeth. In regard to the first cause of the case, he thought it fair to suppose that it started in the antrum, as the first symptoms noted were pain over the jaw and the discharge of pus from the nose. Following that came the enlargement.

Topeka Academy of Medicine and Surgery.

Topeka, Kan., Feb. 5, 1900.

VARIOLA ULCERS OF CORNEA.

DR. MACEE presented a case of this condition in a man about 50 years old. The man had a very severe case of smallpox—called "chicken-pox" by the local and state health boards. He was deeply pitted about the face and neck, but not on the body. A papule formed on the cornea of his right eye and later formed a deep ulcer, which allowed the iris to protrude through the cornea and was visible firmly adherent to the ulcer. He has been under constant treatment for about two months. The sight became very poor, so he could only distinguish a shadow when an object was held in front of him, but it now causes him no trouble, except a "grating" feeling as the eyelid passes over the ulcer. Dr. Magee said that he could find no case on record where chicken-pox had caused ulcers of the cornea.

DR. R. E. MCVEY confirmed the diagnosis of smallpox and said that all the so-called "chicken-pox" cases here were no more nor less than smallpox in a mild form.

Treatment of Infectious Ulcers of the Cornea.

A. Bourgeois recommends (*Ann. d'Ocul.*, 7, 1899): first, treatment of the affection generating the ulcer; then, sterilization of the ulcer with the thermo-cautery, or better still, with hot air. In case of hypopyon, keratocentesis and lavage with artificial aqueous humor are advised.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, FEBRUARY 17, 1900.

PROPHYLACTIC VALUE OF VACCINATION AND REVACCINATION.

So conclusive is the evidence in support of the efficacy of vaccination and revaccination in the prevention of smallpox that there would be no occasion for extended discussion of this subject were not attempts persistently made to discredit the statistics or to attribute the results to other influences. It can not be succesfully denied that the prevalence of, as well as the mortality from, smallpox has diminished enormously since the general adoption of vaccination and revaccination. In addition, the severity of the disease in individual cases has diminished, and disastrous complications, so commonly observed in the past, are to-day rare and exceptional; and there is practically no evidence whatever that this improved condition of affairs can be ascribed in any notable degree to any other factor or combination of factors. There is absolutely no ground for the opposition that is manifested in some places to this most beneficent procedure.

It is recorded that during the eighteenth century fully two-thirds of all children born in Europe were sooner or later attacked by smallpox, and that on an average one-twelfth of all born succumbed to that disease. There occurred annually, in the City of London from 1771 to 1780, an average of 50,000 deaths from all causes among every million of the population, including 5020 from smallpox; from 1801 to 1810 the figures were 29,200 and 2040 respectively; from 1831 to 1835, 32,000 and 830 respectively, from 1854 to 1871, 24,200 and 388 respectively; and from 1883 to 1892, 19,800 and 73 respectively; so that while the total death-rate has diminished about 60 per cent. in 121 years, that of smallpox has diminished 98.5 per cent. For the whole of Great Britain the annual death-rate from smallpox has diminished from 1064 (per million) in 1838 to 27 in 1894; in 1889 it was 1; in 1890, *nil;* in 1891, two. Although vaccination came into use in England in the first years of the present century, provision for its gratuitious performance among the needy was not made before 1840; it did not become obligatory until 1853, and legislation for its systematic enforcement was not enacted until 1871.

It is stated that in Iceland, in 1807, among a population of 50,000 there were 18,000 deaths from smallpox.

Revaccination was made obligatory in the German army in 1834, and among all classes of the community in 1874. The effect was at once seen in the mortality from smallpox, which was almost eradicated in the first instance, and greatly reduced in the second. In the years 1870 and 1871 the German army lost, by smallpox, 459 men among a million; while the French army, though smaller in number, but without rigorous vaccination requirements, lost 23,400 from the same cause. From 1875 to 1887 one death occurred from smallpox in the German army and this in a soldier who had been revaccinated unsuccessfully; while in the French army, from 1875 to 1886, there were 550 deaths from the same cause, or 45.8 per annum, and in the Austrian army, likewise without rigorous vaccination requirements, from 1875 to 1881, 595 deaths from smallpox, or 85 per annum. Throughout Prussia, in 1872, the number of deaths per hundred thousand of the population, from smallpox, was 262, and in Austria, 189; while in 1884 the figures were 1.4 and 50.8 respectively. Vaccination has been obligatory only for recruits in Austria since 1886.

Vaccination was optional in Sweden, between 1801 and 1810. In the latter year it became obligatory. In the pre-vaccinal period, from 1774 to 1801, there occurred annually an average of 2050 deaths in the million from smallpox; during the period of optional vaccination, the mortality had fallen to 686, and from 1810 to 1855 it was 169. From 1816 to 1893 it averaged 155, and from 1884 to 1894, two. In Bohemia, in the period between 1796 and 1802, before vaccination was adopted, there occurred in a population of 3,039,722, annually, 94,955 deaths, of which 7663 were due to smallpox; while between 1832 and 1855, when vaccination was obligatory, there occurred among a population of 4,248,155, annually 113,412 deaths, of which but 287 were due to smallpox. Between 1758 and 1802, before vaccination was employed, the average mortality from smallpox in the city of Berlin was 8 per cent. of the total, while in the early years of the nineteenth century this was reduced to 6.7 per cent. Between 1810 and 1814 it had fallen to 0.7 per cent., while between 1815 and 1869 it had varied between .06 and 1.34 per cent., averaging 0.8 per cent.

During the seventeenth and eighteenth centuries epidemics of smallpox were frequent in Massachusetts. In 1721 nearly 8 per cent. of the population of Boston died from that disease. From the introduction of vaccination in 1800 to 1840, the number of deaths from smallpox was probably not more than 20. In 1836 the vaccination-laws were modified and made less stringent than they had been, and the deaths therefrom greatly increased. There occurred between 1839 and 1841, in Boston, 232 deaths, and from 1842 to 1855, throughout the state, 1304 deaths; while in 1886 and in 1895 there were no deaths whatever from this cause.

Of the importance of thorough vaccination and repeated revaccination, the comparative figures of the London Smallpox Hospital from 1836 to 1857, dealing with 13,755 cases, are demonstrative. Of 3094 cases received between 1836 and 1851 there were 35.5 per cent. of deaths among the unvaccinated, 21.7 per cent. among those said to have been vaccinated, but presenting no

cicatrix, 7.6 per cent. among those presenting a single cicatrix, 4.3 per cent. among those presenting two, 1.8 per cent. among those presenting three, and 0.7 per cent. among those presenting four cicatrices. Among 10,661 cases received between 1852 and 1867, there occurred 34.9 per cent. of deaths among the unvaccinated, 39.4 per cent. among those said to have been vaccinated but presenting no cicatrix, 13.8 per cent. among those presenting one, 7.7 per cent. among those presenting two, 3 per cent. among those presenting three, and 0.9 among those presenting four cicatrices.

The following comparative figures illustrate the favorable influence exerted by vaccination, not only on the morbidity, but also on the mortality, and also the greater prevalence of smallpox in early life. In an epidemic in Sheffield, between 1887 and 1888, it was found that of vaccinated children under the age of 10 years, 5 in a thousand were attacked by smallpox, with a death-rate of .09, while of unvaccinated children 101 in a thousand were attacked, and the death-rate was 44. Of persons above the age of 10, vaccinated twice, 3 in 1000 were attacked, with a death-rate of .08; of those vaccinated once, 19 were attacked, with a death-rate of 1; and of those not at all vaccinated, 94 were attacked, with a death-rate of 51.

In a paper read before the First Pan-American Medical Congress, W. M. Welch related that among 4907 cases of smallpox observed at the Municipal Hospital of Philadelphia, between 1870 and 1893, there were 1412 with good vaccination cicatrices, with 124 deaths —8.8 per cent.; 666 presented fair cicatrices, with 98 deaths—14.7 per cent.; 1070 presented poor cicatrices, with 290 deaths—27.1 per cent.; while 1759 presented no evidence of previous vaccination, with 1027 deaths—58 per cent. Of 128 patients admitted to the Hospital in 1899 it was ascertained that 110 had never been vaccinated, while 17 had been in infancy and 1 after exposure.

There were reported to the Ohio State Board of Health, between April, 1898, and April, 1899, 1428 cases of smallpox, with 18 deaths—1.26 per cent.; nearly 40 per cent. of the cases were in adults. The statement is added that vaccination has proved an almost absolute specific.

Of 1106 cases of smallpox observed at the Quarantine Hospital at Baltimore, 441 had been vaccinated successfully, and 20 unsuccessfully, while 645 had not been vaccinated at all. Among the first group there occurred 63 deaths—14.3 per cent., among the second, 6 deaths—30 per cent.; and among the third, 315 deaths—48.8 per cent.

In an epidemic of smallpox in Birmingham, Ala., in 1897-98, investigated by the U. S. Marine-Hospital Service, 225 cases were treated, of which 219 were in colored persons, and 6 in white. Of the whole number, 106 had never been vaccinated, and 101 unsuccessfully; 2 presented good scars, 5 doubtful ones, and 7 had been recently vaccinated. The epidemic was controlled by house-to-house and personal inspection, isolation, vaccination, and disinfection.

Smallpox has been excessively prevalent in the Philippines, 250 deaths formerly occurring in Manila alone in April and in May, but since vaccination has been instituted by American surgeons, but few cases have occurred and no deaths.

Under the influence of vaccination a constant diminution in the number of cases of smallpox has also been observed in the Italian army since 1867, and the mortality has been reduced to almost *nil.*

Finally, it may be added that of physicians, nurses, attendants, and others who come into more or less intimate relations with smallpox patients, but are thoroughly vaccinated, practically none is ever attacked by the disease.

Figures and statements like the foregoing, and they could be multiplied almost indefinitely, can not but carry conviction to any unprejudiced mind, but some of those unwilling to be convinced, but who can not deny the accuracy of the statistics, seek to attribute the results to causes other than vaccination, as, for instance, general improvement in sanitation, overlooking the fact entirely that the morbidity of, and the mortality from, no other disease have been reduced in anything approaching the degree in which these have been influenced in the case of smallpox. It is, therefore, the bounden duty of the state to see that the welfare of the many is not jeopardized by the prejudices or the ignorance of the few, and wherever intelligence and conservatism prevail vaccination and revaccination should be made obligatory. From far Japan comes the announcement that the Imperial Government has decided to make vaccination compulsory, primary vaccination to be performed at or before the tenth month, revaccination at 6, and again at 12 years of age. The general adoption of this rule would aid in the realization of the hope expressed by Jenner that "the severest scourge of the human race" might be eradicated. For those who suggest, out of their inner consciousness, that the disappearance of smallpox would be followed by the evolution of some worse disease or condition, as also there are some who contend that the eradication of tuberculosis would be followed by some other more serious distemper, all discussion would be futile. The dangers and accidents of vaccination are practically insignificant, particularly since vaccin virus from the calf or the cow is employed almost solely and, what is of still more importance, since the introduction of glycerinated lymph.

THE MASSACHUSETTS STATE HOSPITAL FOR CONSUMPTIVES AT RUTLAND.

In October, 1898, a state institution for the treatment of consumptives, erected at Rutland, Mass., by means of money appropriated by the legislature, was formally declared to be ready to receive patients. "This event marked an epoch in the treatment of tubercular disease in our country, inasmuch as it was the first

legislative attempt in the United States to cope with consumption and other diseases of tubercular origin." Heretofore the sanitarium treatment of phthisis has been open for the well-to-do only, with the exception of two or three small sanitaria for people of limited means. The scope of the Rutland Sanitarium is outlined in the original prospectus of the trustees as follows: "Inasmuch as the primary purpose of the hospital is to arrest the disease, and, if possible, to extirpate it, only such patients will be admitted as are deemed not too far advanced to admit of reasonable hope of radical improvement. In no sense is the hospital to be considered as a home for the hopelessly sick, for, great as is the recognized need for homes of refuge for advanced consumptives, such service is manifestly incompatible with the even more needed service of receiving levies that can be saved only by sanitarium treatment." The Rutland Sanitarium is planned for people of limited means, the weekly charge being $4.

In these days of sanitarium, open air and hygienic treatment of consumption, it is especially interesting to study the results of the first year's work of this pioneer institution as presented by Vincent Y. Bowditch before the Suffolk District Medical Society, Nov. 15, 1899,[1] and the discussion of Dr Bowditch's paper contains much of directly practical value to those interested in this work. During the year 214 cases were admitted and 126 discharged, 11 having remained in the hospital only two weeks, and 1 being a case of bronchitis only. Of the remaining 114 discharged, 35 were discharged as "arrested cases," 37 as "much improved," 17 as "improved,"' 24 as "not improved," and 1 died. By "arrested cases" is meant those cases in which all active symptoms, like cough, expectoration and fever, disappeared, the general symptoms indicating general restoration to health. This term is a better one than "cured" because of the treacherous nature of the disease. The average stay in the hospital of the "arrested" cases was 4½ months. It is quite remarkable that the percentage of arrested cases is in complete accordance with the experience of other sanitaria. The subsequent histories of these patients a few years hence will be of great value.

The good results obtained are due chiefly to hygienic measures alone. Constant life in the open air is insisted on. The windows are left open, except at the hours of rising and going to bed. Baths at regular intervals and three hearty meals, with lunches of milk and eggs or their equivalent, are given. Medicinal and serum treatment did not play any special part in the results. Bowditch emphasizes that the alleged depressing effect of the patients upon one another, the danger of infection, etc., previously and even now urged against the treatment, have no real significance. Indeed, to one who visits the Rutland Sanitarium, the cheerfulness of the patients certainly is an encouraging feature of the place. The open wards, instituted with some misgiving on the ground of economy, and the resulting lack of privacy, have not prevented patients from entering and the method has the great advantage of large circulation and free ventilation. The demand for admission to the hospital has long ago exceeded the number of beds (170).

It must be said, after reading Dr. Bowditch's calm statements as to what can be done in a simple sanitarium for consumptives of small means in the harsh climate of New England, that the example of Massachusetts ought to be followed elsewhere. This has been done by Indiana, and in New York state various bodies are now strongly recommending the establishment of local sanitaria for tuberculosis. In fact, the rational treatment of tuberculosis now rests on a firm basis and the prejudice against such institutions is dying out. Perhaps the most important feature of institutions of this kind is their educational effect on the people at large. The proof of the beneficial results of life in the fresh air, day and night, of proper diet, judicious exercise, and cleanliness, furnished by sanitaria of the simplest equipment and construction, can not fail to be of incalculable benefit in the crusade against tuberculosis. The fact that a patient has a great deal better chance for recovery from tuberculosis in a sanitarium than in private life is gradually but surely becoming rooted in the public mind, and when popular interest is excited care must be had lest blind enthusiasm go too far. For various reasons the movement in favor of several local institutions in the vicinity of large centers of population is actively supported by medical men generally. Several smaller institutions scattered over a state are much to be preferred to a single, large and unwieldly institution. In every community are locations suitable for the fresh air treatment, and soon the notion that consumptives must seek the restoration of their health in remote mountain districts will also vanish. The enforcement of the hygienic-dietic treatment in state sanitaria does not require an elaborate plant as much as the intelligent and willing co-operation of the patients. Hence patients with incipient tuberculosis should be frankly told the seriousness of the illness and the steps necessary to best combat the disease. As pointed out in the discussion of Dr. Bowditch's report, time should not be wasted in discussing the means of withholding the truth from the patient. The air of despair that settles about the tuberculous must give way to an active interest in their treatment on the part of the physician, friends and patients alike. And then the attitude of the community in regard to tuberculosis will also change. The personal influence of physicians finds here a sphere of great usefulness. In urging state action in the treatment and prevention of tuberculosis, let not the poor tuberculous be forgotten, especially in the large cities, and consigned to the barracks and crowded wards of the poorhouse and almshouse. For such, free institutions ought to be established and means found for the support of the family while the bread-

[1] Boston Med. and Surg. Journal, 1900, cxlii, 127.

winner is seeking his health. The solution of this difficult problem is calculated to test well the intelligence and wisdom of the people of our states and cities.

NERVE-STRETCHING IN TREATMENT OF CONGENITAL MYOTONIA.

A final opinion has not yet been rendered as to the exact nature of the condition of transient hypertonia that develops after a period of rest in muscles put into activity, as described in detail by Thomsen and usually known by his name, and of which this observer is himself a conspicuous instance. In some cases the affected muscles have presented evidences of hypertrophy, although they are weak rather than strong. The motor end-plate appears to suffer particularly. The disease is not common, probably not many more than 100 cases having been placed on record. The etiology is obscure, although hereditary influences have been present in the majority of instances. Treatment has been unavailing, although Thomsen has thought that a life of muscular activity is capable of affording some relief. Gessler[1] suggests, however, that the therapeutic indication is to neutralize the congenital muscular hypertrophy, and this can be done by inducing artificial degeneration of the affected tissues by means of nerve-stretching. He reports a case in which this procedure was carried out, with distinct relief. The patient was deeply chloroformed, the pelvis and one lower extremity fixed, the other lower extremity flexed at the knee, and the thigh gradually extended until the toes were almost behind the ear. This was kept up for five minutes, when a corresponding manipulation was practiced on the other side. No bad result followed, while, on the contrary, the myotonic reaction previously present in the muscles supplied by the sciatic nerve disappeared. There was, however, no subjective improvement. The procedure was repeated after an interval of five and one-half weeks, being now maintained for ten minutes, but the result was the same as before. The myotonic reaction in the distribution of the anterior crural nerve was unaffected in either instance. Accordingly, this nerve was exposed on one side and stretched, the operation being followed not only by disappearance of the myotonic reaction in the related muscles, but also by removal of the difficulty in voluntary movement, while these naturally persisted on the opposite side. Some return of the former condition subsequently took place, and it was proposed at a later date to expose again and stretch the nerves concerned, with a certain amount of compression. It is hoped to thereby cause some degree of muscular atrophy, together with disappearance of the myotonic reaction, and of the excessive activity of normal muscular function.

[1] Deutsches Archiv f. Klin. Med., B. lxvi, p. 259.

QUACKERY, EXPECTORATION, AND THE LAW.

An Alabama judge has given out the decision that the right to expectorate is inherent, and unless special receptacles are provided no penalty can accrue from spitting on floors or sidewalks. Here is another obstacle to the antituberculosis crusade. The decision is, however, apparently a broad one, and may not prove a precedent in all regions. There are other possibilities of committing nuisances than spitting, which have just as good a claim to be considered an inherent right, and which, in our civilized communities, are prohibited in public, notwithstanding the inconvenience the prohibition may cause. It would seem that spitting is to be considered a special privilege, according to this Alabama jurist. If his decision is to stand and be followed elsewhere, public spittoons will have to become a prominent feature in the landscape and take up space in all public conveyances, at least if the expectorating ordinances are to be enforced. The prospect is not a flattering one, when a needed sanitary reform is practically checked, or afflicted with unpleasant adjuncts, to please a class of people who have no regard for the feelings of decent ones. Still other specimens of judicial wisdom are being distributed. An Indiana magistrate has decided that there are no restrictions to be placed on "healing" by laying on of hands, manipulations, etc., where no medicine is given or surgery is practiced. In this he follows the Ohio decision that the practice of healing the body without the use of medicine was not the practice of medicine within the meaning of the law. This was not the intent of the acts, but judge-made law often pays little attention to the intent. There are yet some fine points to be settled. It will be a strain even on a legal mind to prove that bone-setting or the reduction of dislocations is not surgery and therefore within the definition of the practice of medicine. If the osteopaths with their theories of bone dislocation are to be let loose on the community some such questions will be likely to arise. There still remains the question whether these quacks, osteopaths, "Christian Scientists," divine and magnetic healers, *et id omne genus*, are to be allowed absolute irresponsibility for their acts of omission and commission. So far they have appeared to have generally escaped anything more than public censure, for which they do not care. If they are to be tolerated and recognized, the public should demand that they do not successfully shirk their civil and criminal responsibility.

DIRECT BRONCHOSCOPY IN THE LOCALIZATION OF BODIES IN THE LUNGS.

The dangers attendant on the presence of foreign bodies in the lungs, and the desirability of a method for their detection, localization, and removal, are so obvious as not to require extended discussion. Fluoroscopy and skiagraphy will prove useful in diagnosis, and pneumonotomy in treatment, in some cases; but any additional resource for the relief of such a serious condition will be cordially welcomed. A procedure recommended by Killian[1], although apparently difficult of execution, should be given careful consideration. This consists in direct inspection of the trachea and the bronchi with the aid of suitable specula and illumination, either from the mouth or through a tracheotomy wound. Long tubular specula, illuminated with an electric head-mirror or other suitable apparatus, are employed, the main bronchus being displaced sufficiently to be continuous with the trachea. The examination is the more readily made through a tracheotomy wound after thorough cocainization. This constitutes inferior bronchoscopy, in contradistinction to superior bronchoscopy. The

[1] Wiener Med. Woch., 1900, No. 1, p. 14.

latter is by far the more difficult, and will generally require narcosis. By this means the interior of the main bronchi can be distinguished and foreign bodies be detected. The procedure has been applied practically in four cases. One of these occurred in a boy, 4 years old, who had swallowed a bean. With the aid of a speculum introduced through a tracheotomy wound, the foreign body was located and successfully dislodged. Another case occurred in a child, 2 years old, in whom, on the basis of an X-ray examination, the diagnosis of a coin in the left main bronchus was made. No foreign body could, however, be detected on inferior bronchoscopy, and the correctness of this observation was confirmed on post-mortem examination. In a third case, which occurred in an elderly man, a piece of bone was discovered in and dislodged from the right main bronchus by superior bronchoscopy; and in the fourth case, in a 9-year-old boy, superior bronchoscopy disclosed the presence of a piece of aspirated fruit in the right main bronchus, which subsequently underwent disintegration and expulsion.

CONTAGIOUSNESS OF BOVINE AND HUMAN TUBERCULOSIS.

At the present time no subject is attracting as much attention from investigators as the relation of bovine and human tubercle to each other and to man and animals. To what extent man can be infected with tuberculosis by cattle, or cattle by man, is as yet only partially answered, and hence any contribution which is in any way likely to settle, or help to settle, the question, is welcome. In Bulletin No. 57, of the Arkansas Experiment Station, Dr. R. R. Dinwiddie reports some experimental work he has done, and gives his deductions. These experiments were made on various animals, the main object being to test the susceptibility of cattle toward human sputa, and incidentally to make a comparative test with the bovine tubercular material also. The results as given by the investigator, while not of startling importance, go to corroborate the generally prevailing views. He summarizes the matter to be determined in the form of three questions. The first, as to tubercular disease being communicable from man to animal, can hardly be said to be in dispute, nearly all experimenters who have inoculated cattle with human tubercle or cultures having obtained at least a local development of tubercular lesion. The second, "Is the disease thus induced similar in kind to the naturally acquired tuberculosis of cattle?" the author answers by saying that the lesions peculiar to tuberculosis in cattle in its most typical form are attributable to a peculiarity in the mode of reaction of the organization of cattle against the tubercular virus rather than to any peculiarity inherent in the bovine tubercular bacilli as distinguished from the human variety. The third question, the susceptibility of cattle to human virus compared with their susceptibility to bovine virus, has been answered by all experimenters, except Chauveau, with the assertion that cattle are more susceptible to bovine tubercular virus of bovine origin than to that of human origin. The most important question of all, the transmissiblity of tuberculosis from animals to man, the author does not consider. He does take occasion to say that the generally assumed transmissibility of the disease to man by the use of milk from diseased cows, rests mainly on a speculative basis, and that the facts he presents do not remove the question in any degree out of the domain of speculation.

A LEPROSY ALARM.

Dr Albert S. Ashmead makes some apparently startling statements in a letter published in an eastern newspaper. He has spent, he says, $4000 in the investigation of leprosy in our Scandinavian population, and knows that 175,000 Swedes and Norwegians of leprous ancestry have settled in the United States, 3000 of them in Pennsylvania, while they are scattered all through the country. He says he also found three Finnish lepers in Chicago, and others elsewhere, that lepers are shipped to this country by Canadian and British authorities, and that he could put his hands on a national-bank teller whose fingers are ulcerated from leprosy, though he is not yet known to outsiders as a leper. The absence of a national leper law, he claims, permits the free introduction and spread of the disease, and the need of such is the more imperative, since with our closer relations with tropical countries at present the perils are increased. He estimates the number of lepers in Hawaii at 4000, in Cuba at 1000, and says that in the island of Cebu alone, in the Philippines, there are 8000 lepers. If there should be a free immigration from Japan, where he says there are over 100,000 afflicted with the disease, we might be deluged with it. Some of these statements appear extreme—that as regards Cebu, for example—but allowing for any probable exaggeration, the proposal of national legislation in regard to the disease appears reasonable. We do not want foreign lepers thrust upon us, nor should the neglect of one community or state become a peril to the rest. As regards the descendants of lepers, mentioned above, it is doubtful whether there is so very much danger from this source, as the disorder is not considered to any extent hereditary, and considering the prevalence of leprosy in Europe in the Middle Ages, it is probable that a very large proportion of the people now living had a remote leprous ancestry. The disease does not appear, moreover, to extend itself in our climate or in our race to any great extent, which is also a consolatory fact. Its existence among us, however, is not pleasant, and with its capricious, though not very virulent contagiousness, any reasonable measures to check its admission and prevent its spread are very proper and desirable. To some Dr Ashmead may be somewhat of an alarmist, but it will not do to entirely neglect the warning.

TUBERCULOUS OTITIS.

Tuberculosis of the middle ear, with caries and necrosis of the temporal bone, is comparatively frequent, especially in the phthisical. Habermann, Haug and others have described, in detail, the pathologic changes produced by tuberculosis of the middle ear. Many of the authors refer to the extension of the process to the dura mater, which has been found either perforated or covered, both externally and internally, by tuberculous granulation tissue and caseous nodules. An interesting

instance of tuberculous otitis with a secondary tumor-like protuberance into the cranial cavity is described by Piffl[1]. The process was observed in a case of extensive pulmonary tuberculosis. It is assumed that the infection reached the middle ear by way of the Eustachian tube, although two remaining routes of infection, namely the circulating blood and the external auditory canal, could not be definitely excluded. From the middle ear the process had spread to the mastoid cells, which were converted into a large cavity filled with masses of tuberculous tissue, followed by perforation of the posterior and middle cranial fossa and the development of an external tuberculous pachymeningitis. Finally extensive and marked tumor-like outgrowths developed and protruded into the cranial cavity. It is regarded as peculiar that the process did not involve the external periosteum and the soft tissues covering the mastoid process. The ossicles of the ear were loosened and largely destroyed, the anvil lying free in the granulation tissue. Involvement of the facial nerve led to facial paralysis. The temporo-maxillary joint was tuberculous, and the bulb of the jugular vein was also affected and thrombotic. The growth in the dura mater had reached approximately the size of a hen's egg and presented an irregular and nodular surface.

DEGENERATION AND REGENERATION OF NERVE ENDINGS IN VOLUNTARY MUSCLE.

Our knowledge concerning the changes in motor and sensory nerve endings is as yet in its infancy. Huber[2] has made an experimental study of the degenerative and regenerative changes that occur in these structures after severance of the nerves. The nerve used was the posterior tibial nerve of the rabbit, and the endings studied were situated in the interossei muscles. At the same time the neuromuscular and neurotendinous spindles in the muscles were also examined. It is shown, by Huber's study, that the electric stimulation of the nerve is not followed by any response of the muscle when structural changes in the motor endings and the fibers of the medullated nerves have appeared following the experimental division of the nerve. This occurs about twenty-three to forty-six hours after crushing the nerve. The changes in the motor nerve endings, as shown by the intra vitam methylene blue method, are ushered in by rather large thickenings of various sizes and shapes, and the medullary sheaths of the distal portions of the nerves break up into fragments. Apparently these changes begin in the most distal parts of the nerves, at least as far as regards the motor fibers. Under favorable conditions complete regeneration of the motor and sensory end organs of muscular nerves takes place. This was demonstrated by the complete return of the response to the electric stimulation, and by the presence, at that time, of fully developed nerve endings. The neuromuscular and neurotendinous end organs also regenerate, but the exact histologic changes are difficult to recognize until the practically normal structure has been reproduced. The regenerative changes were studied at different periods between twenty-eight to 178 days after the diversion of the nerve. The sensory nerve endings were not found to present the normal appearances until at the end of the second or the beginning of the third month after the crushing of the nerve. From these experiments it may be concluded that motor and sensory nerve endings of voluntary muscles degenerate after division of the muscular nerves, and that under suitable conditions they regenerate completely, but the motor nerve endings quicker than the sensory. Apparently the regeneration is brought about by the down growth of axis-cylinders of the central portion of the nerve-fiber.

[1] Ztft. f. Heilkunde, 1899, xxii, 471.
[2] American Journal of Physiology, 1900, iii, p. 339.

ARTIFICIAL DEVELOPMENT OF GOUT.

A condition resembling gout, and attended with the deposition of uric acid in joints, tendons, serous membranes, and particularly the kidneys, occurs in other mammals as well as in man, and also in birds. It may be induced artificially in hens by the administration of chromic acid, oxalic acid, phenol, acetone, aloin and mercuric chlorid. The condition has been observed also in the ostrich and in birds of prey, and particularly in vultures kept in captivity. With these facts in mind Kionka[1] undertook to experimentally develop gout in hens by controlling the diet and the mode of life. Accordingly, he secured a number of well-developed hens, placed them in a roomy cage, and fed them twice daily with chopped horse-meat free from fat and tendon. The animals were permitted to have as much water as they wanted. They became readily accustomed to their diet and appeared well. After from three to five months, however, the first symptoms of gout appeared. Several types of the disease were recognized. In one, of rather rapid course, pain and swelling were observed in the legs, with paroxysmal exacerbations; and, with progressive emaciation, death resulted. Deposits of urates were found in the enlarged joints. In another type, the disease pursued a less rapid and less acute course, but the deposition of urates was much greater. In still another type, the conditions of visceral gout were more nearly reproduced. The gouty kidney was found almost constantly in all of the animals, presenting round-cell infiltration, defective tingibility, and in places loss of epithelial cells from the convoluted uriniferous tubules, and obstruction of the lumen of the tubules by crystals of uric acid. The animals exhibited a marked desire for grain and carbohydrates, and also for lime. They were accordingly given powdered egg shells in addition to what they had previously been taking. The excreta were now much increased, and yielded an alkaline in place of the previous acid reaction. Contrary to expectation, the amount of ammonia eliminated was increased, while, conversely, the amount of uric acid was diminished. From the therapeutic point of view, and with particular regard to uric acid disorders, it would be interesting to know if corresponding results can be obtained in human beings, but such observations as have been made in this connection are inconclusive, and further careful clinical studies would seem to be desirable.

[1] Berliner Klin. Woch., 1900, No. 1, p. 307; THE JOURNAL, February 10, p. 359.

THE MORTALITY from tetanus neonatorum is always exceptionally high in Cuba. A Havana exchange mentions that 4 per cent. of the deaths from all causes in that city during December were due to it.

Medical News.

A NEW medical monthly, *The Stylus,* St. Louis, Mo., has appeared.

THERE WERE 42 cases of the plague, and 41 deaths reported from Honolulu, January 31, and 57 from Kobe and Osaka, Japan, December 26 to January 10.

PROF. E. HAECKEL, of Jena, was awarded its prize of 10,000 lire, for the most important scientific work of the last four years, by the Academy of Sciences at Turin.

THE LAST German budget contains an appropriation for hydrotherapy as a department of medical instruction at Berlin. Professor Brieger will probably be placed in charge.

THE RECORD of small fees for lodge practice, according to the *Bulletin Méd.,* is now held by Dr. Larcher, who received from the local lodge in a small town in France, sixty centimes, about equivalent to 12 cents, for a night labor case.

IT IS said that Senator Johnson of New Jersey will shortly present a bill before the legislature asking that an insane asylum be constructed at Trenton, for the accommodation of 300 patients, and that the Board of Managers be increased so as to admit two homeopathic physicians.

ACCORDING TO the *Vienna Klin. Rundschau,* Russia has decided to restrict the over-production of doctors by limiting the number of students received for the freshman year, at various medical colleges, to a number, ranging from 100 at Warsaw and Kasan to 200 at Kieff and 250 at Moscow and St. Petersburg.

DR. NORMAN B. GWYN, University of Toronto, 1896, assistant resident physician of the Johns Hopkins Hospital and demonstrator of clinical microscopy in the laboratory, Baltimore, Md., has resigned to accept a position in Philadelphia. Dr. Gordon Wilson, University of Virginia, 1899, has been appointed to the vacancy.

THE COMMITTEE on District of Columbia will have the Gallinger bill on antivivisection before it, for action, February 21, in Washington, D. C. Those interested and desiring to communicate with or appear before the Committee, by letters, petitions or representatives, should take notice. (See THE JOURNAL of February 3, p. 313, for a list of the members of the Committee.)

PHYSICIANS of Reading, Chester and other places in Pennsylvania are said to be much exercised over the method adopted by certain members of the medical profession in regard to agreements entered into by them and certain beneficiary associations, by which medical services are given for one year, to the members, on the payment of $1 each. Opposing this measure the physicians of Bergen, N. J., it is said, will discipline any member who enters into any such agreements.

THE GOVERNMENT in Belgium is considering a bill advocated by the majority of physicians, to suppress the diploma of dentistry and only allow the practice of dentistry to qualified physicians as a branch of the medical sciences, like laryngology, ophthalmology, etc. Beco, the chairman of the special committee, enumerates, among the reasons for this step, the overcrowding of the medical profession and the necessity for considering dentistry as an important and lucrative specialty in the domain of general medicine. The standard that has hitherto been required of dentists has been so low that some change is imperative, and suppression of special diplomas to dentists seems the simplest and most practical solution of the question under the present circumstances.

A SOUVENIR volume has been issued to commemorate the five hundredth anniversary of the Vienna Medical Doctorencollegium. Among the most interesting articles is one describing the achievements of its graduates during the nineteenth century, in art and letters. Some of the most prominent German writers of the day: Feuchtersleben, Lenau, Pichler and Mautner are among them, and one of the most talented dramatists, A. Schnitzler, is a young physician practicing in Vienna. Examples are also cited of the artistic talents of v. Bruecke, Billroth, Meynert, Albert, Heitler, Pick and others.

THE PROFESSION IN BELGIUM.—An editorial in the *Gazette Med. Belge* reiterates that the overcrowding of the profession is increasing while the number of patients is constantly diminishing. "The excess of the evil may bring the remedy. The anxiety of physicians to have their sons adopt some other profession, the horror of the medical profession exhibited by many sons of physicians, is enlightening the public somewhat, but it will take a long time to dispel the popular illusion in favor of medicine as a profession. People forget the existence of the lodges, the clubs, industrial insurance, etc., which include all the salaried families and only allow their medical attendants starvation rates. The future is dark, and our only hope is to keep the evil from incessantly increasing. With pen and sword, by combining, by organizing, by keeping in touch with the administration and our legislators, we must defend ourselves if we do not wish to be completely submerged." It adds that legislation should be encouraged which would bring physicians into the service of public sanitation in an official capacity at a reasonable remuneration. The practitioners throughout the country have recently organized in a co-operative insurance society against the accidents of medical practice.

MEDICAL SERVICE IN THE TRANSVAAL.—In *The Lancet* of January 27 are described the "flying hospital" and "flying ambulance" cars, designed to work together and follow the fighting lines in the rear of the supports and in front of the reserves. This hospital car is placed in a spot sheltered from the firing, but as near as can be with safety, the operating-table set out and instruments and dressings prepared, and it at once becomes a collecting and dressing station. Following the dressing, the wounded are placed in the "flying ambulance" and taken to the nearest field hospital. In the *British Medical Journal* of January 27 Frederick Treves writes of the battle of Tugela (Colenso), and says that the great majority of the wounds were by Mauser bullets, some few from fragments of shell, and a still less number from shrapnel. The Mauser bullet does damage according to the range. At 1500 to 2000 yards it penetrates like a needle, while at 500 or less, "it will smash a femur or a humerus to fragments." He has noticed that when a bone is fractured, the bullet, if retained, is generally much distorted or broken into fragments, and the shell generally peels off the leaden core. He mentions a number of cases of interest, in one of which the bullet went through the middle phalanges of the ring and little fingers, making four small wounds. The two bones were fractured, but the man recovered with sound union and mobile joints. He also saw a fracture of the humerus in which the bone

was broken into twenty-three small fragments. The point of entry of the Mauser bullet is so small that it is not difficult to overlook, often resembling a bug's bite. The point of exit, while very often small, is more apt to be slit-like. Several penetrating wounds of the liver and kidney have been followed by no symptoms, and one officer had a shrapnel bullet pass through his liver and kidney, the result being a little collapse, while beyond some temporary tympanites and hematuria he had no trouble. He says that a bullet has in several instances passed through the brain without causing marked symptoms, and perfect recovery has followed. In one man it entered near the vertex, passed through the brain, hard palate, and buccal cavity, and escaped at the root of the neck on the opposite side, with no discomfort following, except headache and some strabismus. Operations on the skull, for gunshot wounds, have been very numerous, and all such patients have done exceptionally well. An interesting case he mentions is one where a Mauser bullet went through the center of the patella and out at the center of the popliteal space, and led to no trouble of the joint; in another, the bullet went through the popliteal space from side to side, and left the bone and joint untouched, leading to an arteriovenous aneurysm. In one the bullet entered above the clavicle and came out on the inner side of the opposite thigh, there being no symptom except temporary shock. Another correspondent, writing in the same issue of the *Journal*, under date of Dec. 30, 1899, says that at that time there were some 1100 patients in the three base hospitals, the fourth not yet having been called into requisition. A correspondent in the *Lancet* of January 27 mentions a case where the screw from a shell entered the abdomen about an inch above the umbilicus, passed around the abdomen and emerged on the left side, about 1½ inches above the crest of the ilium. Excepting for a considerable amount of shock which followed, there was an uninterrupted recovery. The Boers are said to be better provided with surgeons, bearers, bandages, etc., than is generally supposed, £500,000 having previously been spent for their army medical service.

NEW YORK.

THROUGH the generosity of Mrs. Caroline Swift Atwater, Poughkeepsie, Vassar, 1877, that college is now to have a separate infirmary building, to be known as the Swift Memorial Infirmary.

THE ASSEMBLY Committee on Public Health has reported favorable on the bill of Dr. Nelson H. Henry, member of the legislature from New York City, which gives to the State Board of Health additional power to protect the waters of the state from pollution.

A BILL has been introduced into the legislature providing for the establishment, in or near New York City, of a state hospital for the care of crippled and deformed children. An orthopedic surgeon of experience is to be one of five persons constituting the board of managers.

LONG ISLAND STATE HOSPITAL.

Much indignation has been expressed at Governor Roosevelt's failure to reappoint, as one of the managers of the Long Island State Hospital, Dr. Truman J. Backus. It is popularly believed that Dr. Backus was an energetic, conscientious, and efficient manager. It is rumored that the governor's action was because of a series of complaints that the present management of this hospital had shown a persistent disinclination to adopt the views and suggestions of the State Commission in Lunacy; nevertheless Dr. P. M. Wise, president of that commission, declares that Dr. Backus was a most faithful and efficient manager, and was held in the highest esteem by the majority of the commissioners. Mr. Bradish Johnson has been appointed his successor.

New York City.

A CLERK in Bellevue Hospital has been dismissed because of his failure to answer the charge made against him of having sold death notices and city coffins.

SILVER LEAF DRESSING.

A TRIAL is being made, at Bellevue Hospital, of the silver leaf dressing for burns, originally introduced at the Johns Hopkins Hospital. So far six patients have been treated with it. The silver leaf is applied without any adhesive substance, and experience shows that healing takes place rapidly under it, and that shock and pain are reduced to a minimum. It is held in place by a gauze bandage. As the leaf only adheres to the sound skin, and is quickly loosened by the discharge from a raw surface, it is easily removed without causing the person pain.

RUN DOWN BY AMBULANCE.

While one of the ambulances of the New York Hospital was recently being rapidly driven through Fifteenth street, in the early evening, a woman, 52 years of age, was run down, and her skull crushed. She was quickly taken to the hospital, only half a block away, and her relatives summoned, but she died shortly after 3 o'clock the next morning. It is the intention of the woman's children to bring suit against the hospital, as they claim that the ambulance bell was not rung for some time before she was struck.

LEPROSY.

Dr. A. S. Ashmead has aroused the ire of President Murphy of the New York Board of Health, by publishing in the newspapers the statement that there are 100 lepers at large in the city, and that the Board would not take any interest in the matter when its attention was called to it. President Murphy questioned the statement, and invited Dr. Ashmead to show proof. In replying to the letter, the latter not only reiterates what he had said, but avers that on one occasion, when he reported a case of leprosy to the Health Board, he was told that the Board did not care to know of such cases, as leprosy was not regarded as a contagious disease, and did not require isolation. Dr. Prince A. Morrow and Dr. George H. Fox, both specialists, are quoted in confirmation of the assertion that there are many lepers going about in the city. (See p. 436.)

QUARANTINE MEASURES.

A bill, drafted by Dr. Alvah H. Doty, health officer of the port, has been introduced into the legislature. Its object, as stated by Dr. Doty, is to harmonize and modernize the various components of the quarantine law. It is hoped, by this legislation, to get rid of certain antiquated regulations which are ridiculous in the light of modern sanitary science. It is also intended to remove, in this way, the conflict between the quarantine commission and the health officer, giving the latter greater discretionary power as to methods of disinfection and procedure in regard to certain cargoes, and, at the same time, more clearly defining his duties.

MORTALITY STATISTICS.

Last December the weekly average of deaths represented an annual death-rate of 18.07 per thousand of the estimated population, while in January it represented one of 19.11. In January the following diseases showed a slight decrease in the number of deaths: diphtheria, 40, against 41 in December; scarlet fever, 9.5 against 11 in December; typhoid fever, 13 against 14 in December. In the following the weekly average of deaths increased; measles, 23.75 against 16.75 in December; whooping-cough, 12.75, again 9; influenza, 7.75 against 5; bronchitis, 49.75 against 46; pulmonary tuberculosis, 157.5 against 147.75; pneumonia, 250 against 231 in December. There have been no deaths from smallpox since the month ending Nov. 4, 1899, when one was recorded.

MARYLAND.

DR. WILLIAM H. WELCH, Annapolis, has been elected physician to the Anne Arundel County Almshouse.

DR. P. B. HOUSEKEEPER, North East, has been reappointed physician of the Cecil County Almshouse and Insane Asylum.

PHARMACY LAW AND MARYLAND'S LAXITY.

Although Baltimore has a pharmacy law, Maryland outside has none, and any person in the counties may open a pharmacy, compound prescriptions and sell poisons. For fourteen years the pharmacists of the state have tried to get the legisla-

ture to pass a law, but opposition has arisen from the general storekeepers and those jobbers who make it a business to sell to country merchants. The bill now urged by Dr. A. R. L. Dohme, president of the Maryland Pharmaceutical Association, would prevent country merchants from selling any drugs except such as are used for culinary purposes or in the arts. It was framed to contain all that was best in the laws of the other forty-four states, but was purposely less stringent. Fearing another defeat, the pharmacists have now agreed to amend this bill and leave out the above restriction, only compelling the compounding of physicians' prescriptions by a licensed pharmacist. Physicians may compound and dispense prescriptions, but can not run a drug store without having met the requirements of the bill, viz., five years of practical experience in compounding prescriptions or passing an examination before the State Board of Pharmacy.

Baltimore.

THE WORK of repairing the chemical laboratory of the Johns Hopkins University, which was damaged by fire some time ago, was begun on the 6th. A great improvement to the third floor will be a rearrangement of the apartments for the analytic laboratory, the lecture hall and museum.

SHEPPARD AND ENOCH PRATT HOSPITAL.

The eighth annual report of the Sheppard and Enoch Pratt Hospital shows that on Nov. 30, 1899, 49 men and the same number of women were under treatment. During the year 14 were discharged as cured; nine as much improved and 16 as improved. Premature removal by friends prevented the complete recovery of a number. One-half the patients pay only one-third the per capita cost of care and treatment.

HOSPITAL FOR CHILDDEN.

At the Robert Garrett Hospital for Children, 257 received treatment in the wards during 1899, the largest number in its history. The medical and surgical cases were about the same; 65 surgical operations were performed; 9 patients developed contagious diseases after admission and were treated in the special isolation building on the premises. There were 12 deaths, the majority from summer diseases; 3262 visits were made to the dispensary, where 209 dressings were applied and 3111 prescriptions dispensed. The hospital is free and is maintained by Mrs. Robert Garrett.

U. S. ARMY NURSING SERVICE.

A meeting of representatives of medical schools and others was held in Baltimore, Md., on the 7th inst., in the interest of the movement to secure a trained nursing service in the United States Army. Dr. Robert Johnson presided. Addresses were made by Miss G. M. Nevins, Superintendent of Nurses at Garfield Hospital, Washington, D. C.; Miss Margaret Astor Chanler, of New York City; Drs. William Osler, Wm. H. Welch and I. Edmondson Atkinson, Mr. Skipwith Wilmer, President of the Second Branch of the City Council, and Dr. Anita Newcomb McGee. Mr. Wilmer offered resolutions approving the bill now before Congress, and urging Maryland's representatives to give it their support. Dr. McGee urged further that the superintendent of nurses should be given a definite rank and not a mere clerical position.

PENNSYLVANIA.

A MAN from Selin's Grove has brought suit against that borough for $2000, for the bite of a mad dog received by his 2-year-old child in July, 1899.

A WOMAN has entered suit against Dr. James Oglesby, Danville, for giving testimony in regard to her sanity previous to her incarceration in the Danville Insane Asylum.

A RESIDENT of Phillipsburg has brought suit against Bernard Lynch, for $5000, for the loss of his daughter, who died not long ago from supposed hydrophobia, resulting from being bitten by Lynch's dog.

MEDICAL REQUIREMENTS.

The recent resolution passed by the Medical Board of Pennsylvania, providing that all graduates appearing for license to practice should have had a course of instruction extending over a period of four years, will not affect those students who have already matriculated and are now in college. Relative to raising the standard in Pennsylvania, the *Philadelphia Press* recently sent out inquiries to practitioners living outside of the larger cities of Pennsylvania, asking their views as to the increase of years in the medical curriculum. Nineteen have been received, and the majority favored increasing the medical course, so that five years of instruction will be demanded.

Philadelphia.

DR. W. L. PYLE has gone to Florida for rest and recreation.

DRS. JOHN H. PACKARD and Herbert M. Howe were recently elected directors of the Academy of Fine Arts, to serve three years.

AT THE last meeting of the College of Physicians, Dr. Thomas G. Morton read an address in memory of Dr. Albert Fricke, who died a few weeks ago.

DRS. W. W. WEAVER, A. P. Francine, and Carl Lee Felt, recently appointed by the Board of Education as medical inspectors in the public schools, have tendered their resignations.

THE CHIEF milk inspector reports that during January 3848 inspections were made and 109,374 quarts of milk examined, of which 1909 were condemned as being adulterated with water.

PUBLIC BATHS ASSOCIATION.

During the past year the following number of persons took advantage of the opportunities afforded by this association: Men and boys, 27,508; women and girls, 4538; free children, 2634. The greatest number of bathers in one day was 740. The average receipts from patrons for 1899 were $196 per month, an average gain over the preceding year of $59 per month. The average monthly expenses for 1899 were $361, as against $395 in 1898. Most of the expense was for necessary improvements.

VITAL STATISTICS.

According to the report of the different medical inspectors of the Board of Health, during the month of January there were 1414 contagious diseases and 863 fumigations were made. There were 623 cases of diphtheria with 116 deaths; 361 of scarlet fever with 23 deaths; 158 of typhoid fever with 23 deaths; 37 of membranous croup with 29 deaths. There were 232 deaths from tuberculosis. The births numbered 3862 and the deaths 2907.

SANITATION OF "BABY FARMS."

An investigation of a baby farm, made by a representative of the Society to Protect Children from Cruelty, has revealed that there should be a great change in the system of government regarding sanitary matters in such institutions. The lay press reports that in one there was not a bed in the house and that the stench was almost enough to overcome the agent who made the visit to the place. The woman in charge was arrested and held in $600 bail while the children were turned over to the custody of the Society.

DISTRICT OF COLUMBIA.

THE JUDGE of the police court has imposed a fine of $75 on J. G. Luman, who was recently convicted of practicing medicine in the District without a license.

THE BOARD of Visitors to the Government Hospital for the Insane (St. Elizabeth's) held a meeting on the 9th inst., and adopted resolutions on the death of Dr. A. H. Witmer, the late senior assistant physician, who had been connected with the institution since 1876.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended February 3, shows the total number of deaths to have been 122, 63 white and 59 colored. The principal causes of death were consumption, pneumonia, diseases of the heart, typhoid fever, diphtheria, and measles. There were 140 cases of scarlet fever, 67 of diphtheria, and 4 of smallpox under treatment at the close of the week. During the week, 87 births, 3 still-births and 24 marriages were reported.

IN CONGRESS.

Senator Hawley has introduced a bill (S. 2965) which provides for increasing the corps of cadets at the United States Military Academy at West Point, and regulates the qualifications for admission. Senator Pettigrew has introduced one (S. 2874) which provides as follows: that the Secretary of the Interior be, and is hereby, authorized and directed to place on the pension rolls, subject to the provisions and limitations of the pension laws, the name of Dr. John W. Cook, late assistant-surgeon of the 22d Regiment Maine Volunteer Infantry, and to pay him a pension at the rate of $50 per month in lieu of what he is now receiving. Mr. Brownlow has introduced

H. joint resolution, 157, which provides for 200,000 copies of the special report on the diseases of the horse, under supervision of the Secretary of Agriculture, 108,000 copies for use of the House, 64,000 for use of the Senate, and 8,000 for the use of the Secretary of Agriculture. Mr. Mann has introduced one (H.R. 7943) which provides as follows: that the Secretary of the Treasury be, and is hereby, authorized and directed to reimburse out of any money not otherwise appropriated, officers, non-commissioned officers and men who served in the army or the navy of the United States in the war between the United States and Spain, or to their, heirs or legal representatives, for the expenses incurred by them while on leave or furlough for reasonable medical attendance, nursing, and medical supplies, necessitated by sickness or disability incurred by them, through their military or naval services in said war; provided that such reimbursement shall be made under regulations prescribed by the Treasury Department, and that the rate paid shall not exceed the customary rates of the locality where the medical services had been rendered: and provided further, that any claim for such reimbursement not presented to the Treasury Department within two years of passage of this act, shall be forever barred. Mr. Cowherd has introduced bill H.R. 7951, which provides a vote of thanks of Congress and bestowing a medal of honor upon certain members of the revenue cutter service, including Dr. Samuel J. Call. Mr. Joy, by request, introduced bill H.R. 1870, which provides as follows: that hereafter all employees of the United States Government and the Government of the District of Columbia, employed in the District, who failed to discharge their indebtedness to any person or persons, firms or corporations for necessaries of life, including house rent for themselves and families, incurred during the time of their service and reduced to judgment before a proper court having jurisdiction in the matter and a transcript of such judgment showing that said indebtedness was for necessaries as aforesaid, filed with the chief of the office in which the debtor is employed, shall, within twenty days from the filing of such transcript, *ipso facto*, stand dismissed from such employment unless within fifteen days from the filing of such transcript, said employee shall agree, through the Department or with the judgment creditor, to pay thereafter on each pay day, if paid once a month, at least the sum of 10 per cent., or if paid twice a month to pay at least the sum of 5 per cent. of such indebtedness, and shall accordingly pay the same until discharged in full: *Provided*, that the aggregate of the payments to be made by said employee shall not, except by special agreement at the sole option of such employee, exceed in any one month 10 per cent. of his salary, and if there be transcripts filed by more than one creditor, such payment shall be prorated according to the amount of the indebtedness due each creditor.

NOTE.—Mr. Joy's bill is very extraordinary in its provision, especially so as a very large proportion of the Government clerks in the District of Columbia live beyond their means. The bill as it stands, instead of discouraging reckless expenditures by these clerks, really protects them. For example, if a clerk receives $100 a month in salary, the present bill provides that he shall not pay on judgments of the court more than 10 per cent. of his salary in liquidation of judgments; even where judgments are presented to the department from one or ten persons, the aggregate in total payments, *at the sole option of the clerk*, shall not exceed 10 per cent. The bill also provides that all acts and parts of acts inconsistent with the provisions of the act are hereby repealed. This latter provision of the bill prohibits the courts from collecting in larger proportion. If this bill should pass, the medical profession will be seriously hampered in the collection of bills for professional services rendered.

OHIO.

Cincinnati.

DR. JOHN URI LLOYD, author of "Etidorpha," has written a novel of Kentucky life known as "Stringtown on the Pike."

DR. J. L. MCLEISCH, health officer of Hyde Park, has resigned, and Dr. C. B. Morrell has been appointed in his place.

DR. LEWIS A. STIMSON, of the medical department of Cornell University, has been the guest of Dr. H. J. Whitacre. Dr. Stimson gave a lecture before the Academy of Medicine, on "The Diagnosis and Treatment of Fractures and Dislocations."

IN 1891, Dr. William Judkins, as a result of a letter to the profession, published in the *Cincinnati Lancet-Clinic*, advising physicians not to purchase manikins placed on the market by a certain New York firm, was sued by the latter for $20,000 damages. The jury disagreed at the time, and the case has been dragging along until recently, when a verdict was rendered for the defendant.

ILLINOIS.

Chicago.

DR. H. M. LYMAN, who for several days has been seriously ill, is now convalescing.

THE MEDICAL inspectors of schools examined 8493 pupils during the week, of whom 371 were excluded.

AN AMBULANCE corps has been organized and equipped for service with the Boers, by the United Irish Societies of Chicago. The corps expects to be in the field on April 1.

CASH AND securities valued at $5000 were found in the clothing of a charity patient who died at the Baptist Hospital, February 11.

THE SUM of $2000 has been added to the fund for the erection of a consumptives' hospital, during the past two weeks. The total amount now subscribed has reached $15,000.

THE UNIVERSITY of Illinois has leased the College of Physicians and Surgeons for a term of twenty-five years, at $12,000 a year, the intention being ultimately to gain entire control of the institution. The contract provides that the university shall have one-third of the net earnings of the medical school, and the stockholders the remainder.

PRESIDENT HARPER, of the University of Chicago, accompanied by a delegation from Rush Medical College faculty, has returned from an extended tour of inspection of the various eastern colleges and hospitals. The visit was in connection with the contemplated erection of a new clinical building for Rush Medical College, which is affiliated with the University of Chicago.

MORTALITY STATISTICS.

The total mortality during the past week was 531, being 27 more than the week previous. There were 100 deaths from pneumonia, which makes the acute pulmonary affections more than 25 per cent. of the total. The mortality from typhoid fever has been remarkably low, there being but 3 deaths during the week, as against 14 the corresponding week of 1899.

CANADA.

MONTREAL physicians are indulging, to a considerable extent, in "Health Talks to Women." Most of these public lectures have a bearing on sanitary science.

AS THE direct result of picking an acne point on his face, a young man in Toronto recently lost his life through the resulting septicemia.

FOR SPEAKING disrespectfully of British generals and British soldiers in the present South African campaign a medical student at McGill, Montreal, was treated by his fellows to a ducking in one of the dissecting vats.

"HYGIENE in the Grocery Store" was the title of a public lecture delivered last week by Dr. E. G. Asselin, to the grocery clerks of Montreal. The adulteration of food-stuffs, dangers from decayed vegetables, ventilation, dangers from infectious diseases, and shorter hours for the clerks were the principal topics discussed.

CONCERNING the case of osteopathy reported to THE JOURNAL a few weeks ago, "Dr." Cluett, of Ottawa, has received, through his solicitor, an order *nisi* from the divisional court at Osgoode Hall, Toronto, quashing his previous conviction. The Ontario Medical Council will now have to prove that the practice of osteopathy is dangerous and unlawful.

THE BLACKFOOT HOSPITAL.

The fourth annual meeting of the supporters of this institution was held in Toronto on the 4th inst., the hospital being a special charge on the girls' auxiliaries of the Anglican churches of this city. Dr. Turner, the superintendent, formerly of Millbrook, Ont., who offered his services gratuitously and who has acted in that capacity since March, 1897, presented his report on the workings of the institution. The hospital is situated among the Blackfoot Indians at Gleichen, N. W. T.; during the year, 193 patients were treated, 158 of whom were cured; only one died and all the others were benefited. In addition to this, 2639 out-door patients were attended to; and the

institution has progressed favorably since the erection of the hospital building in 1894. The donations received in the diocese in which the hospital is located amounted to $841.02, of which amount $602.87 was for the support of the nurses and superintendent.

SMALLPOX AT TORONTO.

The dreaded disease has almost invaded Toronto, having broken out in West Toronto Junction, a suburb, and something like a dozen cases have so far been reported. In connection with the outbreak, considerable ill-feeling has been engendered amongst some of the physicians over the diagnosis and recognition of the first case; and the citizens and lay press of the city are endeavoring to place the responsibility for the outbreak. General vaccination is proceeding in the town and as there are a large number of citizens of the Junction who are employed in Toronto and many residents of Toronto who work in factories at the Junction, Toronto's medical health officer is on the alert, has put the smallpox hospital of the city in readiness for the reception of cases, and has established centers for vaccination.

OPPOSED TO DOMINION REGISTRATION.

In Kingston, the home of the Royal College of Physicians and Surgeons, affiliated with Queen's University, opposition has developed to Dominion registration as set forth in the bill about to be introduced in the Dominion Parliament now in session. On the evening of the 5th inst., the Medical and Surgical Society of that city met and discussed the whole question very fully; and the outcome appears not to be in accord with the resolutions passed at the last annual meeting of the Canadian Medical Association. Instead, the medical practitioners of Kingston propose that the Dominion be divided into sections, thus: Maritime provinces, Quebec, Ontario, Manitoba, British Columbia, and the Northwest Territories, each having six representatives in Council; that following the precedent of Great Britain and Ontario, each university of Canada, having a medical faculty actually teaching shall have 1 representative; that all written examinations be held simultaneously at each center at which is a medical school, and that all practical and clinical examinations be held at the same centers in succession. A committee was appointed to have the views of the Kingston society printed, and sent to members of parliament, medical schools and others. This committee has also been deputed to proceed to Ottawa to offer opposition to the bill now before the Private Bills Committee there.

Correspondence.

Students Against Progress.

CLINTON, IOWA, Feb. 8, 1900.

To the Editor: An editorial appeared in THE JOURNAL for January 20, on "Students Against Progress," which would make it appear that Iowa students were asking to be "exempted from a state examination." There are four medical schools in Iowa, and of that number only one asks for such exemption. A bill was introduced during the present session of the legislature, fostered by the State University, asking that the students of the medical department be exempted from the state board examinations. This measure was opposed by all the other schools, and has thus far been defeated. An amendment was offered which provided that a committee from the board shall visit the different schools at commencement time and conduct the examination in accordance with the provisions of the original medical act. This amendment to the original bill, which was reported favorably by the committee, passed the Senate and will probably become a law.

It is not quite fair to class all Iowa medical colleges and students as being opposed to state examinations, when in fact the opposition comes from only one of them.

Yours truly, D. S. FAIRCHILD, M.D..

[There was no intention of making any invidious remarks in regard to the medical students of Iowa in general. The "Iowa students" in the editorial comment to which our correspondent refers, are those about whom mention had been made in a comment in THE JOURNAL of Dec. 16, 1899, p. 1557. We ought to have been more specific in our later mention, and regret that we were not.—ED.]

"Appropriated for Commercialism."

NEW YORK CITY, Feb. 10, 1900.

To the Editor: I read with much interest your editorial on page 372 of THE JOURNAL for February 10, with the above title, and I asked myself the question, why was not the act of the "enterprising drug firm" that "printed 120,000 reprints of a paper by a well-known author and sent them broadcast to the profession" a meritorious act?

The author contributed something new and valuable to medical science. The "enterprising drug firm" aided in diffusing that knowledge more generally to the medical profession for whom it was intended by the author. The publication of the paper without copyright made it public property. The author might have copyrighted it and made money by its sale, but he evidently did not care to do so, for he contributed it freely to science. Your editorial states that "the enterprising drug firm" was interested in the sale of the drug written about. The firm's motive was, therefore, just what the author's would have been had he written his paper for sale to the medical journal. Is there anything wrong in this? Possibly the firm in question had received a grant from the Government permitting said firm to exclude other drug houses from manufacturing the same article for seventeen years. If so, was there anything wrong in that? The author might have copyrighted his paper and thus prevented any other writer from copying it for thirty years. Where does the difference come in? Is there any difference in principle between the author copyrighting his paper and the inventor patenting his invention? Why should authors be rewarded by governmental grants and inventors go unrewarded?

The position of the medical profession on this subject of medical monopolies seems to me to be very inconsistent. Monopolies of knowledge should never be indorsed by physicians, and yet members of the medical profession extensively prescribe medicinal preparations whose method of manufacture is entirely unknown to science. While guilty of this direct violation of the Code of Ethics, they condemn the patenting of medicinal inventions, forgetting that *a thing patented is a thing divulged.* The patent law requires that the invention shall be "new and useful," and that "before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same." What is there any more ethical than that? If physicians should insist that every medicinal agent or preparation must come up to that standard of requirement, and refuse to prescribe those which do not, what a therapeutic and pharmaceutic millenium we should have!

I admit that there has been a great deal of error sown broadcast by commercialism. In this case, however, I take it that truth was sown, not error. It is the sowing of the truth in regard to every agent of the materia medica that we want, and the patent law, aided by the enterprising drug firms cooperating with the profession, can do much in diffusing a correct knowledge of drugs to the medical profession at large. But this enterprise should be controlled and guided by the profession itself, and not left to work evil as well as good, as it is now.

Certain publishing houses have been known to sow error in regard to their books. They have been known to publish medical journals for the purpose of advertising their books in the advertising columns and in the book review columns. They have reprinted what medical men said about their books, and have sent these reprints broadcast to the medical profession. The books have been copyrighted, and therefore monopolized. Authors have joined with publishers in bringing these monopolized works to the attention of the profession throughout the world. So long as truth is told about the books, and not error, it is considered perfectly ethical for physicians and publishers to co-operate in conducting the commercial business of writing and publishing books and profiting in their sale by advertisements in medical journals, reprints, circulars, etc. Why

should publishers have such privileges extended to them and "enterprising drug firm" be denied them.

What we really need very much is a national or international therapeutic society to take up this question of materia medica and place it under professional censorship and control. "Enterprising drug firms" would then be placed in a position where they could co-operate with the profession, and the profession could co-operate with them, without having the motives of either misunderstood. A great force is here going to waste, which might be utilized with much benefit by the medical profession. The beneficent results which would accrue to the profession, to the medical press, to science, to humanity, if the great force of honest commercialism could be employed in this way, can readily be imagined. Commercialism has been exceedingly useful to the profession in the publication of medical books and medical journals. Can this force also not be of equal service to the medical profession if placed under proper control and in the department of drug and chemical manufacture?

FRANCISCUM.

[Our correspondent apparently ignores the fact that a person contributing scientific material may sometimes object to having his name used for a purely mercenary purpose, by outsiders who place him in a position of a paid "hack writer" for a commercial firm. What we claim is that an author ought to have a right to choose what use shall be made of his production, and the copyrighting of medical journals is done to secure this. —ED.]

Association of American Medical Colleges.

CHICAGO, Feb. 10, 1900.

To the Editor:—The Association of American Medical Colleges ought to sustain the regular classical and scientific courses of the university and under no circumstances encourage students to leave the university to begin professional study before graduating. If the college curriculum is not worth while to the student, it is a matter for the university authorities to correct. The judicial council has lately passed the following judgment in relation to the application of one of these universities.

ANSWER TO INTERROGATORIES PROPOUNDED BY THE WEST VIRGINIA UNIVERSITY.

The Judicial Council of the Association of American Medical Colleges assumes that the premedical course is provided for students who contemplate studying medicine. The subjects announced for the premedical course being included with those studies leading to the bachelor's degree would entitle the graduates of the West Virginia University to enter the second year's course in a regular medical school.

The premedical course alone can not be accepted as entitling any student to advanced standing; nor, can two years of the premedical course at the West Virginia University in any case entitle a student to enter the third year in any college holding membership in the Association of American Medical Colleges. A certificate of attendance on the premedical course of the West Virginia University can not be accepted alone as sufficient evidence of the preliminary education required by Section 2, Article III of the Constitution, unless it should appear that holders of such certificates have completed all the preparatory studies required for admission to the four years' college course, as set forth on page 5 of the announcement of Dec. 1, 1899, of the West Virginia University.

DUDLEY S. REYNOLDS,
STARLING LOVING,
RANDOLPH WINSLOW,
VICTOR C. VAUGHN,
ALBERT R. BAKER,
HAROLD WILLIAMS.

This Association allows its members, by anything but a unanimous voice, to admit graduates of reputable colleges and universities to a credit of one year of time on a four-year course. This provision, when adopted by a medical school, certainly does encourage students to remain in their colleges and universities to complete the work necessary for the bachelor's degree. It is almost suicidal for any university to adopt a shorter road to medicine, such as was proposed in the premedical courses of some years ago. These were never very popular, either with students or medical schools.

BAYARD HOLMES, M.D., Secretary.

The Association Button.

WESTFIELD, N. J., Jan. 31, 1900.

To the Editor:—Many thoughts have crowded into my mind since receiving the official button, and I wonder if he who designed it had as much or more in mind when he drew the design. For instance:

A MODERN AESCULAPIUS.

At first sight the red cross attracts our attention and suggests our Master, The Great Physician, in whose footsteps we are trying to follow and who healed the minds and hearts of men, as well as their bodies. The four points of the cross set forth the four cardinal points of the compass, and demonstrate the extent and influence of a physician's work, for it is as extensive as the four ends of the earth, embracing every nation and every clime. The four points also allude to four virtues: courage, discretion, justice, devotion—necessary for every successful practitioner. The cross is *red*, appealing to the heart, and means sincerity. It is on a ground work of *white*, which shows that purity of purpose is a fundamental principle of our profession. The border of *blue* denotes mercy and charity, which are heavenly attributes, and proves the divine nature of our calling. The three colors form a trinity of sincerity, purity and devotion of purpose toward mankind to alleviate his sufferings. All this is on a foundation of gold, for as gold is the costliest of all metals and greatly prized and sought for, so should the healing art be esteemed above all other good gifts.

Yours faithfully,

FREDERICK ADRIAN KINCH, M.D.

Book Notices.

TWENTIETH CENTURY PRACTICE: An International Encyclopedia of Modern Medical Science, by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York. In Twenty Volumes. Volume xviii: Syphilis and Leprosy. New York: William Wood & Co.

This eighteenth volume of the Twentieth Century Practice series contains only three memoirs, those on syphilis by Drs. E. Lang, of Vienna, and Jonathan Hutchinson, and that on leprosy by Dr. Prince A. Morrow. All are valuable monographs, though that of Dr. Hutchinson is brief compared to the others, as might be expected from its subject, inherited syphilis. Both his and Lang's memoirs appear to be very satisfactory treatments of their subjects, covering especially the practical sides of the questions involved. Lang has even found benefit from specific treatment in paresis, the syphilitic origin of which as well as of tabes he seems inclined to favor.

Dr. Morrow's section on leprosy is probably the fullest, readily available memoir on the subject in our language, and certainly leaves a very fair general idea of the disorder in the reader's mind. Dr. Morrow does not believe leprosy can be stamped out by segregation, though he favors this measure as a possible check to the disorder. If we are to have, as some seem to believe, a general recrudescence of the disorder throughout the world, and if, as he thinks, there is a possibility of the disease becoming one of the current maladies, we have a serious question before us, and his suggestion that the National Government take up the control of the disorder is an important one. The space given, therefore, to this, with us, comparatively infrequent disease, in the volume, is well employed and should not be grudged. The volume as a whole keeps up the reputation of the series as a valuable contribution to medical literature.

PRACTICE OF MEDICINE. A Manual for Students and Practitioners. By George E. Malsbary, Assistant to the Chair of Practice, Medical College of Ohio, University of Cincinnati. Edited by Bern B. Gallaudet, Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated. Philadelphia and New York: Lea Brothers & Co.

This volume appears to be a good one of its kind, and to afford a fair, up-to-date, brief summary of medical practice. The author has evidently read extensively and carefully and

gives the results in addition to facts from personal experience. We notice one or two slips, the most notable one being the rather extreme statement that two-thirds of mankind have tuberculosis and two-sevenths succumb to pulmonary tuberculosis and fully one-third to tuberculosis of some form, including affections of the intestines, bones, glands, etc. We were not aware that matters were quite so bad as that. Taken altogether, however, the work can be recommended as fully as meritorious as any other of similar scope and intent.

CARE AND TREATMENT OF EPILEPTICS. By William Pryor Letchworth, LL.D., ex-president of the New York State Board of Charities. Illustrated. New York and London: G. P. Putnam's Sons. 1900.

The author of this volume, the Hon. W. P. Letchworth, is already favorably known as a philanthropic worker by his previous volume on the insane and their treatment, to which the present one is a companion. In this he takes up the subject of a scarcely less serious human affliction than insanity. The epileptics, excluding such as have the fits only at long intervals and without any perceptible impairment of intellect or emotional control, are a most unfortunate class, many of them practically incapable of earning their own support and hence a burden on their friends or on the state. A large number of these drift into county poorhouses: some even not insane in the true sense of the word, into asylums. It is the care of this class, relatively not so numerous, but still a large one, that this book discusses. Mr. Letchworth has evidently carefully studied his subject and has brought together a large number of facts, not only as to the needs and methods of care of these unfortunates, but also as to what has actually been done in their behalf in this country and abroad. A large part of his work is given to descriptions of epileptic colonies and asylums, of which, in this country, the Ohio institution at Gallipolis and the Craig Colony, of Sonyea, N. Y., are the best known examples. The average reader will probably be somewhat surprised, however, to find that these are not the only ones in the United States, but that a start has been made in California, Massachusetts and Pennsylvania, and under private auspices in some other states. In still other states than those mentioned the movement in this direction has been begun, but the special establishments are not yet in operation. The book is elegantly printed and handsomely illustrated. It will be a valuable reference work on its special subject, and a worthy monument of the philanthropic zeal of its author.

REFRACTION AND HOW TO REFRACT, INCLUDING SECTIONS ON OPTICS, RETINOSCOPY, THE FITTING OF SPECTACLES AND EYEGLASSES, ETC. By James Thorington, A.M., M.D. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1900.

This work will be a useful one to the general practitioner who has made no special study of the technicalities of ophthalmology. It is clearly written and very fully illustrated, and will furnish an aid to the understanding of much that is often practically Greek to others than specialists. There are still some points, however, that the work does not fully make clear, and this is admitted by the author himself, who refers the student to his previously-published memoir on retinoscopy for fuller instructions on this particular method. One, however, who studies the book thoroughly from beginning to end, will be able to obtain a very fair general understanding of its subject, and it is, therefore, to be recommended.

HERMANN LUDWIG FERDINAND VON HELMHOLTZ. By John Gray McKendrick, M.D., LL.D., F.R.SS.L. and E. 8vo. Cloth. Pp. 300. New York: Longmans, Green & Co. 1899.

Hermann Ludwig Ferdinand von Helmholtz was born in Potsdam in 1821. His father was a teacher of philology and philosophy in the Gymnasium; his mother "a lineal descendant of William Penn." Helmholtz entered on the study of medicine in 1838, in the Royal Medico-Chirurgical Frederich-Wilhelm Institute, in Berlin. He commenced his life work, and published his first paper, in that city in 1842, and remained there till 1847, when he became professor of physiology in Königsberg. Here he remained till 1856, and then took the chair of physiology in Bonn. This he held until 1859, when he became professor of physiology in Heidelberg. He was in Heidelberg for twelve years, and, in 1871, removed to Berlin to assume the chair of physics, a position he held till his death.

Had he done nothing else, the man who gave the ophthalmoscope to the world would be entitled to be classed among those who are known as "Masters of Medicine." But the invention of this instrument was one of the small things in the life work of this marvelous genius. Starting as a physician, his wonderful mind soon found the science of medicine too narrow to satisfy its cravings, and it was soon browsing in every part of Nature's field. His genius took in all the sciences, all philosophies, all the arts. Hence to write the history of the life of such a man, and tell of the work he did, required that the biographer, too, should be a man of broad learning, that he might be able to grasp some of the great ideas and loftier motives of the genius he attempts to describe. Such a man the publishers selected to write the life of Helmholtz. Himself a follower of this great master in so many lines of investigation, Professor McKendrick has proved, from the excellent manner in which he has shown us the man and his work, that the choice was well made.

But little space is devoted to the man himself. His personality, his home life, these occupy but a few paragraphs. What he did, what he gave to the world, the knowledge he added to the many departments in which his investigations were made —about these is what the author tells us. And he tells us these things in such a way that one is compelled to acknowledge that von Helmholtz was indeed "a child of genius," and his intellect that of a giant.

SYSTEM OF DISEASES OF THE EYE. By American, British, Dutch, French, German, and Spanish authors. Edited by William F. Norris and Charles A. Oliver. Vol. iv: Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. Illustrated. Philadelphia and London: J. B. Lippincott Co. 1900.

This fourth volume of the series edited by Norris and Oliver includes the consideration of the subject of the motor disorders of the eye, diseases of the cornea and lens, ametropia and medical ophthalmology. These last chapters will make the work valuable to others than eye specialists, as they give a very complete statement of the facts and views up to recent date. The names of the authors are a guarantee of the value of their work, and the reader will not be disappointed on his inspection. The illustrations are excellent and the general editing of the work worthy of all praise.

REFRACTION OF THE EYE, INCLUDING A COMPLETE TREATISE ON OPHTHALMOLOGY. A Clinical Text-Book for Students and Practitioners. By A. Edward Davis, A.M., M.D., Adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital. With 119 Engravings, 97 of which are original. New York: Macmillan Co. 1900.

Though the title on the outside of this book is the "Refraction of the Eye," it is a very different kind of work from that of Thorington, published under the same title. It might more properly pass under its subtitle, as a treatise on ophthalmometry, as that is practically what it is. This is not intended as criticism, or as implying anything against the value of the work. The author states that it is intended more especially for beginners, by which he evidently means those who are beginning the study or practice of the specialty of ophthalmology, but he hopes its clinical details will interest others and that it will especially be read by oculists who, though having the ophthalmometer, do not use it. It will therefore have a large clientele of readers, and since, indeed, it is about the only treatise in English on ophthalmometry, it ought to be in great demand. The author makes the subject quite clear.

BACTERIOLOGY IN MEDICINE AND SURGERY. A Practical Manual for Physicians, Health Officers, and Students. By Wm. Hallock Park, M.D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College. Assisted by A. R. Guerard, M.D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with 87 engravings and 2 colored plates. New York and Philadelphia: Lea Brothers & Co.

This is another candidate for professional favor as a handbook of bacteriology, and from examination it appears to be a good one. It seems only to cover the subject in its pathologic aspects, the sanitary questions not being extensively treated. As these come within the scope of the studies and duties of the medical practitioner, this is to some extent a defect, but one that is usual in works of this kind, and therefore not so much

a drawback to this particular work. Nearly two-thirds of the book is devoted to the description of the various, chief pathogenic bacteria, the first 262 pages covering the general subject of the natural history of bacteria, their resistance, immunity, disinfection and sterilization, and the general methods of culture and microscopic examination.

THE URINE AND CLINICAL CHEMISTRY OF THE GASTRIC CONTENTS, THE COMMON POISONS, AND MILK. By J. W. Holland, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. 41 Illustrations. Sixth Edition. Revised and Enlarged. Price $1. Philadelphia: P. Blakiston's Son & Co. 1899.

This pocket-sized volume is intended to be used as a syllabus for the laboratory, and contains blank pages for calculations, etc. The general heads of the "Table of Contents" will give an idea of the matter considered: "Composition of Healthy Urine;" "Reagents and Apparatus;" "Examination of Morbid Urine;" "Examination of Gastric Contents;" "Examination for Common Poisons;" "Study of Normal Milk." Each of these subjects is then subdivided and the different steps taken up under various subheads, the most important data being given in large type, the much less essential matters being less prominent from their smaller type presentation, but at the same time enabling the investigator to go more into detail in his examinations if he so desires. We commend the manual, for its handy form and excellent arrangements.

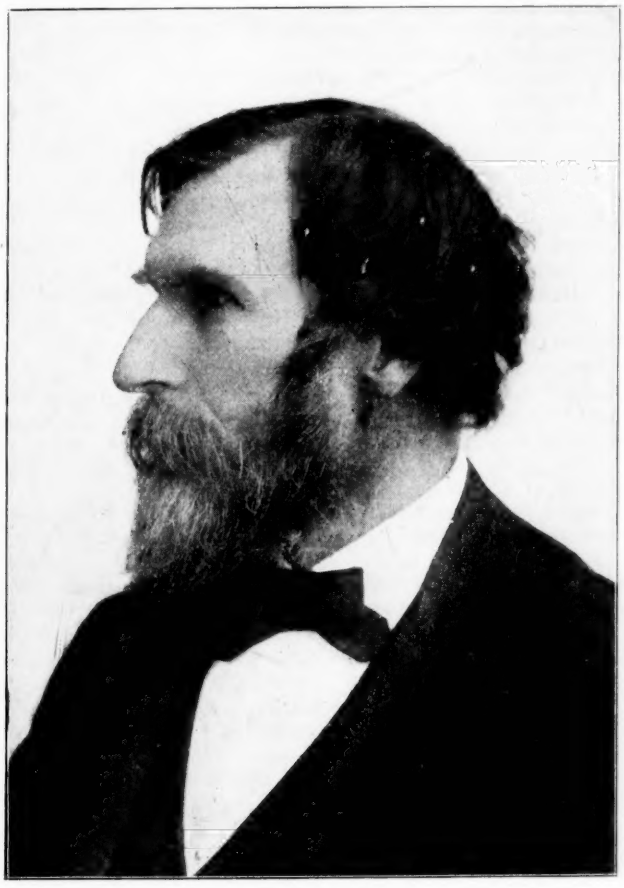
Association News.

Section on Materia Medica.—Members who wish to present papers to the Section on Materia Medica, Pharmacy and Therapeutics will kindly send titles, with brief abstracts of their papers, to the secretary, Dr. J. W. Wainwright, 177 W. 83d Street, New York City, at once, as it is desirable to have the program completed by March 15 at the latest. The following are some of the names of those who will participate: Drs. James Tyson, J. H. Musser, J. M. Anders, H. A. Hare, Frank Woodbury, S. Solis-Cohn, and Jos. P. Remington, of Philadelphia; F. Billings, G. F. Butler, D. R. Brower, and N. S. Davis, Jr., of Chicago; E. G. Janeway, L. F. Bishop, T. F. Rielly, H. Stern, E. H. Squibb, and Charles Rice, of New York City; F. C. Shattuck and F. G. Wheatley, of Boston; E. C. Brush, Zanesville, Ohio; A. L. Benedict, Buffalo, N. Y.; J. M. Upshur, Richmond, Va., and A. M. Holmes, Denver, Colo. The officers expect to make the meeting at Atlantic City one of great scientific and social interest, and invite those interested in this Section work to participate.

Deaths and Obituaries.

E. L. HOLMES, M.D., LL.D.

EDWARD LORENZO HOLMES, M.D., was born Jan. 28, 1828, at Dedham, Mass., and died of pneumonia, Feb. 11, 1900. His father, Edward B. Holmes, was a merchant of Dedham, and fitted his boy in his native village for Harvard College. He graduated from this school at the age of 21, and then went to Roxbury, Mass., and taught in the Latin School there. He graduated from the medical department of Harvard in 1854, his first work thereafter being as an interne in the Massachusetts General Hospital, Boston. He then went to Europe and on his return to this country came to Chicago, where he located in 1856. He at once entered active practice as a specialist in eye and ear work, at the time when specialism was not as prominent a factor in medical life as it is to-day. He was here a moving spirit in the founding of the Illinois Charitable Eye and Ear Infirmary in 1858, and from then until recently he has been at the head of its medical and surgical staff. He also took an active part in the founding of the Presbyterian Hospital in 1883-85 and shared with Dr. Lyman Ware the honor of being the first attending surgeon in the treatment of ophthalmic and aural diseases. In 1860 Dr. Holmes was called by the faculty of Rush Medical College to assume the chair of clinical lecturer on diseases of the eye and ear and from that time until two years ago he was one of the principal men connected with that institution. He was elected to a full professorship in 1867, and president of Rush Medical College in 1890, succeeding Dr. J. Adams Allen. On his 70th birthday, Jan. 28, 1898, he resigned his position as president of the college and from the faculty. Dr. Holmes was also a trustee of Lake Forest University and was connected, either in an honorary or active capacity, with many of the important medical institutions in the state. He was a director in the Central Free Dispensary, Chicago, a member of the Physicians' Club, Chicago Medical Society, a life member of the Illinois State Medical Society, and since 1877 has been a member of the AMERICAN MEDICAL ASSOCIATION. Dr. Holmes married Miss Paula Wieser, of Vienna, in 1862.



By the death of Professor E. L. Holmes, another of the links which connect the old with the new in medicine in Chicago has been removed. He was intimately associated with the pioneers of the medical profession in Chicago—J. Adams Allen, Moses Gunn, J. W. Freer, Daniel Brainerd, who have passed beyond, and others. His sterling worth and his noble character show themselves in his influence as an educator and as a practitioner, and few men have had a greater influence for good in the city in which he made his home than he. He took great interest in the many institutions with which he was directly or indirectly connected and his life has been one continued labor for the upbuilding of his profession and for the bettering of humanity. He came to Chicago forty-four years ago as a stranger, but dies revered and loved by all who knew him, not only for what he was, but for what he did. He was a scholar in every sense of the word, and while he wrote but little, yet his influence was felt much more than that of some who wrote much. Patient with all, charitable and kindly, he leaves a fragrant memory behind, and the good that he did lives after him.

ABEL PARKER RICHARDSON, M.D., Walpole, N. H., died February 5, at the age of 66 years. He received his medical degree from the Dartmouth Medical College in 1864, afterward taking a post-graduate course at Harvard. He was a member of the school board in Walpole from 1867 till 1877, and town clerk for more than thirty years. He was a member, and in 1881 president, of the Connecticut River Valley Medical Society, and in 1895 of the Cheshire County Medical Society. In 1896-7

he was vice-president of the New Hampshire Medical Society, and a member of the AMERICAN MEDICAL ASSOCIATION.

ROBERT W. DORSEY, M.D., died in Baltimore, February 4, of diabetes. He was the last member of an old Maryland family, and was born in 1835, at "Bellevue," near Catonsville, Md. He graduated at St. Timothy's College, with Edwin and John Wilkes Booth and Gen. Fitzhugh Lee. He took his M.D. at the University of Maryland in 1856, and was resident physician of the Baltimore Almshouse in 1856-7. For many years he resided in Baltimore, retiring from practice fifteen years ago. He never married.

E. H. PETTENGILL, M.D., Saxton's River, Vt., died February 8. He was born in 1837, during the Civil War served in the 16th Vermont Regiment, and was a graduate from the medical department of Harvard, class of 1866. He was for many years health officer of his town, and was a member of the Vermont and Connecticut River Valley Medical societies.

S. P. CARBEE, M.D., Haverhill, N. H., a member of the AMERICAN MEDICAL ASSOCIATION, died January 31. He was born in 1836 and during the Civil War served in the 12th New Hampshire Volunteers, in 1863 being commissioned assistant-surgeon. He was also elected to the legislature in 1894, and had been surgeon-general of his state.

JOHN T. HOLLAND, M.D., a native of Queen Ann's County, Md., died in Baltimore, of apoplexy, on February 5, aged about 65. He took his medical degree at the University of Maryland in 1862, and practiced in his native county until 1895, when, his health impaired, he moved to Baltimore.

CHAUNCEY W. AMY, M.D., Decorah, Iowa, died of pneumonia January 29. He was born in Ohio in 1842, and during the Civil War was a member of the 2d Colorado Cavalry. He was a graduate of Rush Medical College, Chicago, class of 1879.

Z. K. BROWN, M.D., Virginia, Minn., died on the 2d inst., at the age of 39 years. He was a graduate of the University of Virginia and the Jefferson Medical College, Philadelphia, class of 1889.

T. J. O'SULLIVAN, M.D., Bellevue, New York City, died after a long illness, from cancer, at his home in Derby, Conn., February 9.

T. DANA FITZSIMMONS, M.D., Long Island College Hospital, 1897, died at his home in Brooklyn, N. Y., February 4, aged 25 years.

We also note the following deaths:

R. D. Farnish, M.D., Mayersville, Miss., February 3, aged 54 years.

W. A. Hartman, M.D., Pittsford, N. Y., February 3, aged 71 years.

Samuel W. Lincoln, M.D., Moline, Ill., February 7, aged 44 years.

Isaac Lindsay, M.D., East Liverpool, Ohio, February 2, aged 27 years.

Oscar Marsh, M.D., Carlisle, Mass., February 2, aged 89 years.

Robert Percy, M. D., Newellton, La., February 2, aged 67 years.

Wm. B. Taylor, M.D., McKeesport, Pa., February 3, aged 40 years.

W. T. Carroll, M.D., Malvern, Ark., February 5.

John R. Humphrey, M.D., Acworth, February 7.

W. V. Rightmire, M.D., New York City, aged 35 years.

W. H. Smith, M.D., Akron, Ohio, February 6, aged 59 years.

DEATHS ABROAD.

A. Bué, France, best known for his studies and works on "Curative Magnetism," and his international review, *Concordia*, published as a propaganda for universal peace, is dead.... Dr. Devay, vaccinating an insane patient at the Lyons asylum, was fatally stabbed in the abdomen with an instrument the patient had concealed. Dr. Devay was editor of the *Echo Med. de Lyon*, and contributed to the *Archives de Neurologie*, etc.

Miscellany.

The New Century.—Virchow declares that whether the statisticians accept it or not, psychologically the new century has already commenced, evidenced in the stimulus to feverish activity that is being manifested on every hand. Especially in the practice of medicine, he adds, many are hoping that the near future will see it assume a different form.

Destruction of Mosquitoes.—Laveran confirms the destructive effect of kerosene poured on the surface of water, to the mosquito larvæ in it, and has established that they are killed not by the exclusion of air from the water, as hitherto supposed, but by droplets of oil getting into their tracheæ. He states that 15 c.c. of kerosene is sufficient to destroy all the larvæ in a square meter of water.

Athetosic Movements of Fingers a Sign of Impending Chloroform Asphyxia.—Koblanck, *Semaine Méd.*, January 24, calls attention to the rhythmic athetosic movements which occur sometimes in chloroform anesthesia as the reflexes are abolished. He considers them a warning of impending asphyxia. The administration of the chloroform should be suspended at once and the mask removed, when the movements will subside and the narcosis proceed smoothly. Otherwise asphyxia speedily follows.

Psychic Troubles of the Virile Menopause.—The alteration in the character observed in certain men between 40 and 50 years old, which so frequently takes the form of a craving for sexual dissipation, perversion, savage jealousy, inexplicable love affairs, is a manifestation of the menopause which occurs in men as well as in women, according to the ideas recently advanced by M. Bombarda, reproduced in the *Bulletin Méd de Quebec*. All these troubles have in common the same concentration of the psychic energy on a single object, and the sexual character of the manifestations noted.

Bran as a Bed for Babies.—The *Jour. de Méd. de Paris* describes the custom in vogue in some parts of France, especially Picardie, of filling the cradle with clean bran for the infant to lie on, naked below the waist, the covering suspended from the edge of the cradle so it does not come in contact with the child. The bran is extremely elastic and clean. The dejecta form balls dry on the outside and easily removed. The infant's limbs and thorax are free from the slightest constraint; there is no odor nor necessity for laundrying. The bran does not require changing oftener than once a month. A blanket is wrapped around the infant when taken up to nurse, or it is dressed a l'anglaise.

Pneumographic Tracings in Diagnosis of Pulmonary Tuberculosis.—Brouardel has been taking tracings of the respiration in a large number of phthisics and announces (*Semaine Méd.*, January 24), that they differ specifically from the tracings in health and in other diseases, and afford a valuable means for the early differentiation of tuberculosis. The line makes the usual rise, then a slight inward curve and abruptly stops, commencing again with the line of inspiration at a distinct angle. The total length of the line thus traced is three to four seconds, consequently longer than the lines of expiration and vacuum in normal respiration. The tracings of different tuberculous subjects can all be compared with each other at various stages of the disease, only differing in amplitude.

Latent Survival of the Functional Properties of the Organism in Apparent Death.—J. V. Laborde has continued his study of apparent death, and now announces that in the extinction of the vital functions—the death of the organism—there are two phases. The first is the suspension of the functions essential to the maintenance of life, respiration and circulation, with the persistence of the properties of the tissues and organic elements. The latter remain latent, however, with no external manifestations, although some can be detected with radiography and tracings. During the second phase these functional properties disappear in turn: first the sensory property becomes extinct; secondly the motor function, and third and last, muscular contractility. Systematic traction of the tongue has revealed a persistence of latent life for a length of time hitherto undreamed of, and renders resuscitation possible at any time before the latter part of the second phase, even as late as after three hours of apparent death. Traction of the tongue by reflex action starts muscular contraction again, and re-establishes respiration and circulation even without air, as THE JOURNAL mentioned in describing his tests with dogs in complete asphyxia, February 3, p. 313. He described, at a recent meeting of the Paris Acad. de Méd., the dramatic revival, by

traction of the tongue, of a girl of 13, who had just died of a scrofulo-tuberculous affection. Respiration and circulation were completely re-established in twenty minutes, but the organic changes which had induced death precluded any permanent restoration. He has found that excitation of the superior laryngeal nerves in normal conditions arrests the respiratory phenomena, and induces asphyxia, while in asphyxia it has the opposite effect, starting the mechanism again. Continuous and sustained traction of the tongue is most effective in arresting the function, and intermittent or rhythmic traction in starting the arrested function. Consequently continuous traction is most effectual in controlling hiccough.

Prevalence of Smallpox.—Smallpox is prevalent in thirty states in the Union, but has reached epidemic proportions in very few. The following are abstracts from letters received from several health officers of infected states in response to a recent inquiry concerning the progress of the disease:

Florida.—Dr. Joseph Y. Porter, State health officer, writes: "It seems impossible to make the people of our state give the subject very serious consideration. We have had smallpox in Florida for the past two years, and as fast as it is eradicated it is re-imported from Georgia, Alabama, or some of the other neighboring states. Whenever a case appears, telegraphic report is immediately made to this office and one of the medical sanitary agents of the Board at once assumes charge, with the result that the disease is temporarily eradicated. But as I have before said, it is only exterminated to be re-introduced. It has prevailed principally among the negro laborers in turpentin, logging, phosphate and other industries. Great hordes of negro laborers are constantly being brought from the adjoining states, and it is in this manner that the disease is principally carried. The Board furnishes free vaccin virus to the physicians where it is used gratuitously, and we have distributed in this manner nearly 200,000 tubes.

Indiana.—Dr. J. N. Hurty, secretary of the State Board of Health, states that smallpox is very prevalent in the southern half of Clay and Vigo counties, also the western portion of Owen and the southern portion of Washington and Greene counties, and exists in the northern part of the state, but not in epidemic form. It is estimated that there are at least 1000 cases in Indiana at the present time. In Clay City, a town of about 1500 inhabitants, the disease has prevailed since last November, and the physicians failed to recognize it. Twelve deaths have been reported so far since last March. It is the belief of the authorities that there have been more deaths, but the physicians have not so reported. When the correct diagnosis is made, the health officer is sometimes threatened, and newspapers and business men everywhere do not hesitate to condemn them. They make a great deal of the supposed argument that the disease is mild and, therefore, can not be smallpox. We are combating it in this state by vaccination wherever the same will be accepted, and by enforced quarantine, isolation and disinfection.

Pennsylvania.—Dr. Benjamin Lee says smallpox first made its appearance, during the present epidemic, on the southern border of the state, in 1898, near Dunbar, Fayette County, whence it spread to Sayre, Bradford County, and thence to the mountain regions of Bedford County, first attracting serious attention in the borough of Bedford, in December, the number of cases reported from the beginning of the outbreak up to January 20, 1900, having been 1211, with 16 deaths. The moment that the Board was convinced of the presence of the infection scattered broadcast through the mountainous regions of the state, an appropriation from the emergency fund was furnished, but notwithstanding the efforts of the Board the disease continued to spread in the western part of the state, and its dissemination was evidently caused in great measure by the failure or refusal of physicians to recognize its true character. At the present time there are 10 cases in the State, in five localities.

South Carolina.—Secretary James Evans states that the mildness of the disease and the unusually low mortality of less than 1 per cent. are largely responsible for its rapid spread among the more ignorant and illiterate classes, who fear vaccination more than smallpox. Another difficulty is that the health organization is confined to incorporated cities and towns, and does not extend to the rural districts. As a consequence the disease gains considerable headway before being brought to the attention of the authorities. Smallpox in this state has been confined almost exclusively to the negroes living in counties in the southern part of the state and along the Savannah River, the sea islands near Beaufort, and between Florence and the City of Savannah. The disease among the whites has been confined to illiterate employees in cotton factories, who endeavor to escape vaccination by every means in their power. Another cause of its spread was the unusual amount of railroad construction last year, which established many foci of infection. In a few days the disease appeared in Orangeburgh, Denmark, Govan, Allendale, Almeda, Evansville, Sycamore, Luray, Olar, Bluffton, Hilton Head and Defuskin. The two last-named are sea islands with a dense negro population, engaged in oyster dredging, and possessed of every facility for the evasion of the sanitary officers on the mainland. The disease has been suppressed in all places except Bluffton and Hilton Head, where there are still a few convalescents. The disease prevails at Greenville, Table Mountain, Dexter and Clifton. The present legislature is confidently expected to pass a compulsory vaccination law, as practically three-fourths of the population are unprotected. It is hoped that the law will make vaccination a prerequisite to admission to the schools, factories of every description and all transportation companies.

The following cases of smallpox have been reported to the U. S. Marine-Hospital Service during the week ended February 9:

Alabama, Mobile, 1; Arkansas, generally prevalent; California, Los Angeles, 3; District of Columbia, 3; Florida, Jacksonville, 5; Illinois, Springfield, 1; Indiana, Clay County, prevalent, Evansville, 6; Louisiana, Calcasian, 5;, DeSoto, 1, Iberia, 3, New Orleans, 28 cases and 30 deaths, Shreveport, 8, Tangipahoa, 1; Massachusetts, Barton, 1, Lawrence, 1; Minnesota, Minneapolis, 8; New York, New York, 2; Ohio, Cincinnati, 3, Cleveland, 27; Oregon, Portland, 1; Pennsylvania, Philadelphia, 5; South Carolina, Greenville, 1; Tennessee, Nashville, 6; Texas, San Antonio, 12 counties and localities, 43; Utah, Salt Lake City, 1; Virginia, Portsmouth, 4 cases and 2 deaths, Roanoke, 12; Washington, Spokane 75; West Virginia, cases are reported in the following counties: Calhoun, Gilmer, Mingo, and Upshur; Wisconsin, Lafayette County, 1, Lemonweir, 5 cases and 1 death, Mauston, 1.

Queries and Minor Notes.

PRACTICE IN WISCONSIN.

CEDAR RAPIDS, IOWA, Feb. 8, 1900.

To the Editor.—I hold a diploma from the Northwestern University Medical School (Chicago Medical College), and propose soon entering practice in Wisconsin. Will you kindly inform me whether that state now requires anything additional to the presentation of a diploma? J. B. S.

ANSWER.—The Wisconsin law requires the submission to the Board of Examiners of a diploma from a medical college that requires at least three courses of not less than six months each before graduation. Failing this the applicant must pass an examination. After 1904 at least four courses will be required. For further particulars as to fees, etc., address H. N. Ludwig, M.D., Secretary, Richland Center, Wis.

CALIFORNIA PRACTICE LAW.

BLUE HILL, NEB., Feb. 7, 1900.

To the Editor.—Will you please inform me as to the law governing the practice of medicine in California? W. C. F.

ANSWER.—The requirements for practice in California are the presentation of an acceptable diploma to one of the three state boards—regular, homeopathic, or eclectic—with affidavits stating the course of studies pursued, and that the applicant is the legitimate holder of the diploma and the person named therein. The fee for the certificate is $5. The secretary of the regular board is Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco, Cal. This question was answered in THE JOURNAL last year (Vol. xxxiii, p. 622.).

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 27 to Feb. 1, 1900, inclusive:

Bailey K. Ashford, lieut. and asst.-surgeon, U. S. A., previous orders appointing him a member of an army medical examining board in Manila, P. I., revoked.

Charles Y. Brownlee, acting asst.-surgeon, from the Division of the Pacific to duty in the Department of California.

Jere B. Clayton, lieut. and asst.-surgeon, U. S. A., from the Department of the Pacific and Eighth Army Corps to the Department of California.

Robert W. Guiler, acting asst.-surgeon, now at Fort Columbus,

N. Y., relieved from the Division of Cuba for annulment of contract.

James P. Kimball, major and surgeon, U. S. A., from Fort Columbus, N. Y., to Omaha, Neb., as chief surgeon, Department of the Missouri.

Egon A. Koerper, lieut.-col., deputy surgeon-general, from duty as chief surgeon, Department of the Missouri, to his home, where he is authorized to await retirement.

Charles D. Noble, acting asst.-surgeon, from Columbus Barracks, Ohio, to the Department of California.

John L. Phillips, captain and asst.-surgeon, U. S. A., from duty as attending surgeon and examiner of recruits at Boston, Mass., to temporary duty at Fort Columbus, N. Y.

Edward C. Poey, acting asst.-surgeon, to temporary duty at Fort Riley, Kans.

Frederick P. Reynolds, captain and asst.-surgeon, U. S. A., relieved from Fort Slocum, N. Y., and from the operation of previous orders directing him to accompany recruits on the transport *Sumner* to Manila, P. I.; he will report for duty in the Department of California and is detailed a member of an examining board in Manila, vice Lieutenant B. K. Ashford, asst.-surgeon, U. S. A.

Henry R. Tilton, lieut.-col., deputy surgeon-general, U. S. A., retired from active service, February 1.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Feb. 3, 1900:

Surgeon H. E. Ames, detached from duty in connection with the *Kearsarge* and ordered to duty on board that vessel.

Medical Inspector J. C. Boyd, commissioned as medical inspector from Oct. 25, 1899.

Pharmacist R. Waggener, detached from the Pensacola navy yard and ordered to be examined at the Washington navy yard February 13, for retirement, and then home to wait orders.

Changes by cable from Asiatic Station.

Asst.-Surgeon J. J. Snyder, detached from the *New Orleans* and ordered to the *Isla de Cuba.*

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending Feb. 1, 1900.

P. A. Surgeon C. P. Wertenbaker, to proceed to Winston, N. C., for special temporary duty. To proceed to High Point, N. C., for special temporary duty.

P. A. Surgeon J. A. Nydegger, to proceed to Manila, P. I., and report to P. A. Surgeon J. C. Perry for duty.

Asst.-Surgeon S. R. Tabb, granted extension of leave of absence for 7 days on account of sickness.

Asst.-Surgeon S. B. Grubbs, to proceed to Marseilles, France, for temporary duty.

Acting Ast.-Surgeon H. B. Kauffmann, granted leave of absence for thirty days, on account of sickness, from Feb. 3, 1900.

HEALTH REPORTS.

The following cases of smallpox, yellow fever and cholera have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ending Feb. 9, 1900:

SMALLPOX—FOREIGN.

Austria: Prague, January 6 to 13, 5 cases.

Belgium: Antwerp, January 6 to 13, 5 cases, 1 death; Ghent, January 13 to 20, 1 death.

Egypt: Cairo, January 7 to 14, 1 death.

England: Liverpool, January 13 to 20, 1 death; London, January 13 to 20, 21 cases; Southampton, January 13 to 20, 1 case.

France: Lyons, January 6 to 13, 2 deaths; Nice, January 13 to 20, 2 cases, 2 deaths; Paris, January 13 to 20, 1 death.

Germany: Hamburg, December 31 to January 13, 4 cases, 1 death; Konigsburg, January 6 to 13, 4 cases, 1 death.

Greece: Athens, January 13 to 20, 4 cases, 1 death.

India: Bombay, December 26 to January 2, 68 deaths; Calcutta, December 16 to 23, 3 deaths.

Mexico: Chihauhua, January 20 to 27, 3 deaths.

New Brunswick: Campbellton, January 27 to February 3, 8 cases.

Russia: Moscow, December 23 to 30, 1 death; Odessa, January 6 to 13, 8 cases, 4 deaths; Riga, November 1 to 30, 15 deaths; St. Petersburg, January 6 to 13, 17 cases, 3 deaths; Warsaw, December 31 to January 10, 11 deaths.

Scotland: Edinburgh, January 13 to 20, 1 case.

Spain: Corunna, January 6 to 13, 3 cases.

Switzerland: Zurich, January 6 to 13, 1 case.

YELLOW FEVER—FOREIGN.

Cuba: Havana, January 20 to 27, 3 cases, 1 death.

Mexico: Vera Cruz, January 20 to 27, 1 death.

CHOLERA.

India: Calcutta, December 16 to 23, 26 deaths.

CHANGE OF ADDRESS.

Adles, W., from Pinckneyville, Ill., to Duquoin, Ill.

Cushing, C., from Washington, D. C., to 696 Sutter St., San Francisco, Cal.

Yarian, H. O., from Auburn, Ind., to Garrett, Ind.

Bennett, S. B., from Los Angeles, Cal., to Fair View, Ill.

Riche, H. G., from Cheneyville, La., to Devall, La.

Blackburn, M. H., from Dover, Ill., to Ray, Ill.

George, A. B., from 683 Van Buren St., to 204 South Lincoln St., Chicago, Ill.

Lamerton, W. E., from 325 S. Hermitage to 384 South Paulina, Chicago, Ill.,

Howard, J. T. D., from Salem, N. J., to Shiloh, N. J.

Erdman, C. A., from Syndicate Block, to Dayton Bldg., Minneapolis, Minn.

Shryock, A. Q., from Battle Creek, Mich., to 28 33d Place, Chicago, Ill.

Wetherell, H. G., from 1511 Logan St., to 1665 Sherman Ave., Denver Colo.

Butler, W. J., from 1361 to 1485 Jackson Boul., Chicago, Ill.

Seymour, W. F., from Chicago, Ill., to Polo, Ill.

Beardsley, J. A., from Rock Island, Ill., to 6405 Eggleston Ave., Chicago, Ill.

Hoode, H., from Sioux City, Iowa, to 5 West Superior St., Duluth, Minn.

Platt, J. J., from St. Paul, Minn., to Pembina, N. D.

McLean, Mary H., from 2884 Delmar St., to 3880 Washington Ave., St. Louis, Mo.

Fisk, F. F., from Hepler to Price, Utah,

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada, Mexico, Guam, Porto Rico and the Philippines, free; foreign postage,, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the JOURNAL free. Subscribers to the JOURNAL may become members of the ASSOCIATION without expense if they are members of medical societies recognized by the ASSOCIATION, and those desiring to have their names transferred from the subscription to the membership list should send certificates as above, with a receipt for their subscription to the JOURNAL, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this ASSOCIATION and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the ASSOCIATION. . . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the ASSOCIATION or either of the Sections, unless specially instructed to the contrary by vote of the ASSOCIATION." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal, unless a definite understanding be had to the contrary.

COPYRIGHT.

Matter appearing in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is covered by copyright, but, as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by the JOURNAL when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new address be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "JOURNAL AMERICAN MEDICAL ASSOCIATION." except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.